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PROGRAMME MATTERS

Institutional arrangements for implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

Note by the Executive Director

In accordance with paragraph 9 of Governing Council decision 18/31 of 25 May 1995, the Executive Director has the honour to submit herewith for the information of the Governing Council at its nineteenth session a proposal by the Secretariat of the United Nations Environment Programme regarding institutional arrangements for the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

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* UNEP/GC.19/1.

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Proposal submitted by the United Nations Environment Programme

INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

28 October 1996

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EXECUTIVE SUMMARY

Background

In 1982, the United Nations Environment Programme (UNEP) took the initiative of developing advice to Governments on addressing impacts on the marine environment from land-based activities. This initiative resulted in the preparation of the 1985 Montreal Guidelines for the Protection of the Marine Environment Against Pollution from Land-based Sources.

The duty of States to protect the marine environment from land-based activities was placed squarely in the context of sustainable development by the United Nations Conference on Environment and Development in 1992. Subsequently, the UNEP Governing Council, in its decision 17/20 of 21 May 1993, authorized the Executive Director of UNEP to initiate a preparatory process for the purpose of facilitating the adoption by Governments of a global programme of action for the protection of the marine environment from land-based activities.

Pursuant to that decision, the Intergovernmental Conference to Adopt a Global Programme of Action for the Protection of the Marine Environment from Land-based Activities was convened in Washington, D.C., from 23 October to 3 November 1995. The Conference unanimously adopted the Global Programme of Action (UNEP(OCA)/LBA/IG.2/7) and the Washington Declaration on Protection of the Marine Environment from Land-based Activities (UNEP(OCA)/LBA/IG.2/6, annex II). Governments welcomed an offer by UNEP to coordinate the implementation of the Global Programme of Action and selected UNEP to carry out the secretariat functions, with the task of promoting and facilitating implementation of the Programme at the national, regional and global levels.

To this end, the Washington Conference requested UNEP to prepare a proposal setting forth a specific plan to address the institutional arrangements for the Global Programme of Action, including, in collaboration with other organizations, the preparation of an implementation plan. UNEP subsequently submitted this proposal to the Inter-sessional ad hoc Open-ended Working Group on Sectoral Issues of the Commission on Sustainable Development, which met in New York from 26 February to 1 March 1996 and to the Commission on Sustainable Development at its fourth session (New York, 18 April-3 May 1996).

Preparation of the proposal

In response to the Washington Conference, UNEP prepared this proposal for implementation of the Global Programme of Action, in cooperation with experts from a number of United Nations agencies and international intergovernmental, and non-governmental organizations. The first draft of this proposal was reviewed during three consultations held in New York in 1996, specifically United Nations and intergovernmental agencies (30 January), selected Governments (1-2 February), and selected non-governmental organizations (6 February).

After its presentation to the Inter-sessional ad hoc Open-ended Working Group on Sectoral Issues of the Commission on Sustainable Development for its consideration and comments, the proposal was slightly edited and presented to the fourth session of the Commission on Sustainable Development. The proposal was utilized by Government's representatives as a basis for the preparation of a draft resolution on institutional arrangements for implementation of the Global Programme of Action, to be adopted by the United Nations General Assembly at its fifty-first session in December 1996. The implementation plan was further modified in accordance with the outline set forth in the above-noted draft resolution and additional comments provided by several Governments, and then reviewed during a consultation with selected Governments (Geneva, 30 September-1 October 1996). The present implementation plan also reflects the outcome of a technical meeting convened by UNEP on the Global Programme of Action clearing-house (Geneva, 26-27 September 1996).

The proposal

This proposed implementation plan is comprised of seven sections and six annexes, and focuses on description of:

(a) Possible institutional arrangements;

(b) Timetable and modalities for implementation of the Global Programme of Action;

(c) Possible secretariat role and inputs of UNEP, other bodies and agencies;

(d) Financial implications.

Main assumptions

Section II of the proposal highlights the main assumptions for the arrangements and steps proposed for implementing the Global Programme of Action, including inter alia:

(a) The Global Programme of Action will be implemented primarily at the national level by, or under the authority of, national Governments, in accordance with their:

(i) National development policies, priorities and goals;

(ii) Socio-economic conditions;

(iii) Financial capabilities; and

(iv) Institutional and human-resource capacities;

(b) The broadest spectrum of national institutions and structures, including non-governmental organizations and the private sector, will be mobilized to participate in the implementation the Global Programme of Action;

(c) Relevant United Nations bodies and agencies, and other intergovernmental organizations, will actively support and participate in implementing the Global Programme of Action, taking joint responsibility where appropriate;

(d) The work of UNEP, as secretariat of the Global Programme of Action, will be supported largely by existing resources, expertise and infrastructure in its relevant programmes;

(e) The development of national and regional programmes of action is of primary international importance, and the mobilization of additional financial resources for development of such programmes are indispensable for implementing the Global Programme of Action.

The main role of UNEP and its partner agencies is to promote and facilitate implementation of the Global Programme of Action at the national, regional and international level.

Basic institutional arrangements

Section III of the proposal describes the basic institutional arrangements. The distiction is made between UNEP's Secretariat role and UNEP's role as one of the United Nations bodies contributing to implementation of the Global Programme of Action. Through its programmes and secretariat role, UNEP will:

(a) Promote and facilitate implementation of the Programme of Action at the national level;

(b) Promote and facilitate implementation at the regional, including subregional, level through, in particular, a revitalization of the Regional Seas Programme; and

(c) Play a catalytic role in the implementation at the international level with other organizations and institutions.

Within UNEP's Secretariat functions, the contribution to implementation at the national level will be mainly through supporting the clearing-house mechanism. At the regional level, the Secretariat functions will mainly include:

(a) Ensuring liaison between the regional seas organizations outside the UNEP Regional Seas Programme and UNEP's activities in this field; and

(b) Promoting cooperation between regional institutions concerned with the marine environment, other regional institutions such as regional development banks, the private sector and non-governmental organizations.

The overall role of UNEP as a United Nations agency will be to:

(a) Coordinate the relevant activities within UNEP's workprogramme; and

(b) Revitalize the UNEP Regional Seas Programme, in particular by facilitating appropriate activities of the regional programmes.

Establishing the institutional basis for coordination

Section IV of the proposal describes the steps in setting up the institutional basis for coordination of the Global Programme of Action. Initially, UNEP's Executive Director appointed a senior UNEP staff member as Acting Coordinator of the Programme, working in UNEP's Water Branch. This individual has been assisted by Water Branch's staff members and an Interim Coordination Office has been established within the Branch. The Interim Coordination Office will draw on relevant UNEP's programmes and units, as well as support from partner agencies and organizations.

To facilitate technical coordination and cooperation, UNEP will regularly convene meetings with regional and international agencies and organizations with primary roles in activities under the Programme.

Implementing the Global Programme of Action

Section V of the proposal describes the plans for implementing the Global Programme of Action. This will be addressed simultaneously at the national, regional and global levels, through a series of interlinked, parallel and partially overlapping activities. As national, subregional and regional programmes of action will be the cornerstone for successful implementation of the Global Programme, fostering and facilitating the formulation, adoption and implementation of such programmes will be a central task of UNEP, Governments and UNEP's partner agencies.

As a basis for scientific assessments on the impact on the marine environment, periodically updated regional assessments on land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment will be prepared. These assessments will be based on data and information provided by Governments, as well as databases of relevant regional programmes, agencies of the United Nations system, intergovernmental and non-governmental organizations.

Based on the provisions for international cooperation in the Global Programme of Action, as well as capacity-building and mobilizing of financial resources, the clearing-house mechanism will facilitate the provision of help to countries in need of assistance for developing and implementing national and regional action programmes.

Clearing-house arrangements

As a matter of highest priority, a clearing-house mechanism will be established by UNEP as Secretariat of the Global Programme of Action, in cooperation with the interested governments, partner agencies, non-governmental organizations, private sectors, and other sources of information and expertise. It will function as a mechanism for guiding those seeking assistance to appropriate sources for such assistance. The basic functions of the clearing-house will be to identify sources of scientific and technical information relevant to the Global Programme of Action, to mobilize and make available experience and expertise, including the facilitation of effective scientific, technical and financial cooperation, to provide access to sources of information and capacity-building possibilities, as envisaged by the Global Programme of Action.

The clearing-house mechanism of the Global Programme of Action will be essentially a "referral system," with UNEP acting as a catalyst between those countries in need of assistance on the one hand and countries, organizations and institutions which may be prepared to respond, on the other hand. Where possible, UNEP will assist in improving the coordination and cooperation among the various mechanisms, including financial institutions supporting activities of the Global Programme of Action, and will also assist countries with particular difficulties (e.g., determination of eligibility) in the preparation and submission of their proposals.

The clearing-house mechanism will facilitate responses from appropriate sources to requests for assistance. However, available expertise and resources are clearly insufficient to respond to all requirements likely to be posed for implementation of the Global Programme of Action, particularly for countries in need of assistance. Therefore, efforts will be made to mobilize additional and new financial resources, as identified in the Programme, and to facilitate transfer of environmentally sound technologies for managing problems related to control of the negative effects of land-based activities.

Mobilization of financial resources

The role of UNEP and partner agencies in facilitating mobilizing additional resources will be to continue to assist the potential recipients in:

(a) Identifying needs for assistance that requires new and additional financial resources;

(b) Formulating requests for assistance suitable for consideration by potential donors;

(c) Identifying potential donors able to respond to such requests;

(d) Establishing, at the request of the potential recipient countries, initial contacts and mediating, as appropriate, between recipients and potential donors.

Awareness bulding

UNEP will draw the attention of Governments, directly and through relevant meetings, to the serious environmental degradation and threats to human health posed by land-based activities, and to the mitigation possibilities inherent in the Global Programme of Action. UNEP and Governments together have the important task of informing all sectors of society of the need to control pollution from land-based activities. In cooperation with other international agencies, and within available resources, UNEP will promote campaigns for this purpose and to support governments, on request, in this work. Non-governmental organizations will have a particularly important role to play in awareness-building, and in fostering public pressure on national decision makers, for action needed to protect the aquatic environment from undesirable and harmful land-based activities.

Monitoring, reporting and reviewing progress in implementation of the Programme

Section VI of the proposal focuses on monitoring, reporting and reviewing progress in implementation of the Programme of Action. Monitoring progress in the implementation of the Programme of Action will be one of the essential secretariat fucntions perdormed by UNEP. A primary source of information on the status and effectiveness of activities undertaken in the general framework of the Global Programme of Action will be official reports received from Governments. Whenever such activities are undertaken in the framework of regionally coordinated programmes and strategies, it is expected the national reports would be received through the organizations acting as coordinators of such programmes.

Financial considerations, workplan and timetable

Section VII deals with financial considerations, workplan and timetable. Initial core support for facilitating implementation of the Global Programme of Action will be provided by UNEP and its partner agencies, including the use of trust funds established in the framework of regional programmes. In principle, each country is expected to finance its own national programme of action. However, for countries in need of assistance[1]/, substantial new and additional funding will be required through external financing, particularly through grants and concessionary loans. The workplan and timetable are detailed and are subject to modification after further consultation with partner agencies and Governments.

Annexes

Annexes I and II describe, respectively, the major global and regional programmes relevant to implementation of the Global Programme of Action; annex III describes UNEP's substantive input to implementation of the Global Programme of Action; annex IV considers the role and inputs of United Nations bodies and agencies; annex V deals with the possible implementation roles of other agencies and organizations; and annex VI describes the workplan and timetable for regional implementation of the Global Programme of Action.

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[1] As defined in paragraph 19 of the Global Programme of Action.

I. BACKGROUND

1. The Intergovernmental Conference to Adopt a Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, held in Washington, D.C. from 23 October to 3 November 1995, adopted the Washington Declaration on Protection of the Marine Environment from Land-Based Activities (UNEP(OCA)/LBA/IG.2/6, annex II) and a comprehensive Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (UNEP(OCA)/LBA/IG.2/7). In paragraph 18 of the Declaration, the representatives of Governments and the European Commission participating in the Conference declared their intention to protect and preserve the marine environment from the impacts of land-based activities by, inter alia:

> "Elaborating the steps relating to institutional follow-up, including the clearing-house mechanism, in a resolution of the United Nations General Assembly at its fifty-first session, and in that regard, States should coordinate with the United Nations Environment Programme, as secretariat of the Global Programme of Action, and other relevant agencies within the United Nations system in the development of the resolution and include it on the agenda of the Commission on Sustainable Development at its inter-sessional meeting in February 1996 and its session in April 1996."

2. Similarly, paragraphs 74-75 and 80-83 of the Global Programme of Action identify specific steps for developing institutional arrangements, as follows:

> "74. Recognizing that States have the primary role in the implementation of this Programme of Action, UNEP, as the coordinator and catalyst of environmental activities within the United Nations system and beyond, should, through its programmes and secretariat role:
>
> (a) Promote and facilitate implementation of the Programme of Action at the national level;
>
> (b) Promote and facilitate implementation at the regional, including subregional, level through, in particular, a revitalization of the Regional Seas Programme; and
>
> (c) Play a catalytic role in the implementation at the international level with other organizations and institutions.
>
> "75. It is important that in fulfilling this role, including the secretariat function, UNEP should undertake it in an efficient and cost-effective manner, supported largely by the existing resources, expertise and infrastructure available in all components of UNEP's programmes. UNEP should be flexible and responsive to the evolving needs of the Programme and the availability of resources, e.g. from trust funds.
>
> "80. The process of articulating the institutional framework to support and implement this Programme of Action cuts across existing institutional mandates and will require action within relevant international organizations and institutions, including those of the United Nations system and international financial institutions. It is recommended, therefore, that pertinent provisions outlined in this Programme of Action be set forth in a resolution to be adopted by the United Nations General Assembly at its fifty-first session.
>
> "81. The resolution would set forth commitment to the institutional framework outlined in the Programme of Action and agree on specific steps towards its establishment, including the clearing-house. Such steps would include identification of the international organizations and institutions, regional and global, with responsibilities and experience regarding impacts upon the marine environment from land-based activities.

> "82. It is recommended that the issue of the General Assembly resolution be specifically included on the agenda of the Commission on Sustainable Development for consideration in the context of its review of Chapter 17 of Agenda 21, on oceans.
>
> "83. The Executive Director of UNEP is called upon to prepare a proposal setting forth specific plan for implementing the institutional arrangements contained in this Programme of Action, including, in collaboration with other organizations, the preparation of a draft implementation plan and pilot project for the clearing-house. This proposal should be submitted to the inter-sessional meeting for the Commission on Sustainable Development, to be held in February 1996. This plan should include a clear indication of how UNEP intends to carry out its functions in this regard, including secretariat functions, its contributions to the clearing-house mechanism, proposals and action taken on coordination among relevant United Nations and other organizations and how the relevant UNEP programmes, including the Regional Seas Programme, could be strengthened to carry out an effective role in the implementation of this Programme of Action."

3. This implementation plan was prepared by UNEP in response to the above requests, including contributions from a number of Governments, intergovernmental and non-governmental organizations, and taking into account the adopted Programme of Action, the report of the Washington Conference (including the Washington Declaration), and the report of the Workshop on Environmental Science, Comprehensiveness and Consistency in Global Decisions on Oceans Issues (London, 30 November-2 December 1995).

4. The first draft of this implementation plan was reviewed at an inter-agency consultation, held in New York on 30 January 1996, followed by consultations with selected Governments (New York, 1-2 February 1996) and non-governmental organizations (New York, 6 February 1996).

5. On the basis of comments and suggestions received from these consultations, the draft was revised and presented to the Inter-sessional ad hoc Open-ended Working Group on Sectoral Issues of the Commission on Sustainable Development (New York, 26 February-1 March 1996) for its consideration and comments. It then was slightly edited and revised to include missing information, particularly the specific role of individual organizations of the United Nations system.

6. A previous draft implementation plan was presented to the fourth session of the Commission on Sustainable Development (New York, 18 April-3 May 1996) for consideration within the context of its review of Chapter 17 (Oceans and Seas) of Agenda 21, as a basis for the preparation of a draft resolution on institutional arrangements for implementation of the Global Programme of Action to be adopted by the United Nations General Assembly at its fifty-first session in December 1996. The present implementation plan also reflects the provisions set forth in the above United Nations draft resolution (particularly following the provisions for developing the clearing-house source category) and incorporating additional comments provided by several Governments. Additional comments were received at a consultation with selected Governments (Geneva, 30 September-1 October 1996) and incorporated in the document, as appropriate. The outcomes of a technical meeting on the Global Programme of Action clearing-house, convened by UNEP (Geneva, 26-27 September 1996), have also been incorporated in the relevant sections.

7. Based on these revisions, the present implementation plan focuses on a description of:

(a) Possible institutional arrangements supporting the implementation of the Global Programme of Action;

(b) Steps proposed for the institutional arrangements for coordination and implementation of the Global Programme of Action;

(c) The timetable and modalities for implementation of the Global Programme of Action, with a focus on development, adoption and implementation of regional, subregional and national action programmes;

(d) The secretariat role and inputs of UNEP, the bodies and agencies of the United Nations system and other relevant programmes and organizations, and the international financial institutions which may take responsibility for the implementation of specific components of the Global Programme of Action;

(e) The financial implications of proposed institutional arrangements and steps for implementation of the Global Programme of Action; and

(f) The process for monitoring, reporting and reviewing the progress in implementation of the Global Programme of Action.

8. This implementation plan does not deal with specific requests to UNEP for actions related to the issues of sewage and persistent organic pollutants (POPs). These subjects will be addressed separately in UNEP's main workprogramme (for instance, through implementation of decision 18/32 of 25 May 1995, on POPs, as indicated in annex III below). As a contribution to the clearing-house, UNEP Chemicals (International Register of Potentially Toxic Chemicals - IRPTC) established a home page in the World Wide Web (WWW) Internet on POPs.

II. ASSUMPTIONS

9. The arrangements and steps proposed in this implementation plan reflect the directions contained in the Global Programme of Action, by assuming that:

(a) The Global Programme of Action will be implemented primarily at the national level by, or under the authority of, national Governments, in accordance to their:

(i) National development policies, priorities and goals;

(ii) Socio-economic conditions;

(iii) Financial capabilities; and

(iv) Institutional and human-resource capacities;

(b) The broadest possible spectrum of national institutions and structures, including non-governmental organizations and the private sector, will be mobilized to participate in the implementation of the Global Programme of Action;

(c) Relevant United Nations bodies and agencies, as well as other intergovernmental organizations, will actively support and participate in implementing the Global Programme of Action, taking joint responsibility where appropriate;

(d) Non-governmental organizations will also play an active role in implementation of the Global Programme of Action in areas relevant to their expertise and experience 1/;

1/ Organizations and bodies of the United Nations system, as well as other intergovernmental and international non-governmental organizations cooperating with UNEP in the implementation of the Global Programme of Action, are identified as "partner agencies" in the ensuing text of this document.

(e) National actions will be harmonized at the subregional, regional and global levels whenever subregional, regional or global cooperation is a precondition of, or contributes to, an effective national implementation of the Global Programme of Action [2];

(f) Organizations and structures involved in coordination of regional programmes for the protection and development of the marine, coastal and freshwater environment (see annex II below) will play a major role in ensuring regional cooperation and implementation of the Global Programme of Action;

(g) The global coordination of the Global Programme of Action will be carried out in a flexible, decentralized and cost-effective manner, with responsibilities devolved to a level as closely linked to the field of action as possible[3];

(h) The work of UNEP will be supported within the limits of its existing resources, expertise and infrastructure in its relevant programmes;

(i) UNEP and the partner agencies will ensure their policies give appropriate priority to assistance for activities aimed at implementation of the Global Programme of Action;

(j) The resources of UNEP and the partner agencies will be available, as appropriate, to:

  (i) Initiate the implementation of the Global Programme of Action; and

  (ii) Catalyze the mobilization of new and additional resources needed for the full scale implementation of national and regional activities related to the Global Programme of Action;

(k) Financing for implementation of the national and regional programmes of action will be provided, in general, by each country's own public and private sectors; and

(l) Efforts to mobilize additional financial resources, specially for countries in need of assistance, for the development and implementation of national and regional programmes will be successful.

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[2] The need to harmonize national actions in case of enclosed or semi-enclosed seas is evident, although the arguments in favour of global harmonization are equally strong. Cooperation on global and regional levels will highlight the importance of identifying those regional and global issues which, because of their transboundary and primarily international impact, rarely attain high place on national agendas. An example for such a regional issue is the issue of eutrophication. A country will usually not reduce nutrient inputs to aid international harmony (or avoid conflict) unless: (i) its neighbours agree to enforce a common management regime; and (ii) the joint action can be seen to have an added economic value of direct benefit to each of the contributing parties. POPs are a more global issue with a more complex but equally valid economic arguments.

[3] For instance, activities such as: collection, maintenance and evaluation of data and information; preparation of regional strategies and national action programmes; awareness building; identification of assistance needs and clearing-house functions; will be largely carried out by the relevant existing regional organizations and programmes listed in annex II, with support of the appropriate agencies of the United Nations system.

10. The main role of UNEP and the partner agencies is to promote and facilitate implementation of the Global Programme of Action at the national, regional and international level, keeping in mind paragraphs 74-79 of the Programme of Action.

III. BASIC INSTITUTIONAL ARRANGEMENTS

11. Based on the particular provisions agreed in the Global Programme of Action, as well as on discussions carried out during the consultations mentioned above in paragraphs 4 and 6, the distinction is made here between UNEP's secretariat role and UNEP's role as one of the United Nations bodies contributing to implementation of the Programme of Action. The activities under the subtitles below are those agreed in the Global Programme of Action.

12. As indicated in paragraph 74 of the Global Programme of Action, UNEP, as the coordinator and catalyst of environmental activities within the United Nations system and beyond, should, through its programmes and secretariat role:

(a) Promote and facilitate implementation of the Programme of Action at the national level;

(b) Promote and facilitate implementation at the regional, including subregional, level through, in particular, a revitalization of the Regional Seas Programme; and

(c) Play a catalytic role in the implementation at the international level with other organizations and institutions.

UNEP functions as Secretariat of the Global Programme of Action

13. Within the Secretariat functions, the contribution to implementation at the national level will be mainly through supporting the clearing-house mechanism.

14. At the regional level, the Secretariat functions will mainly include:

(a) Ensuring liaison between the regional seas organizations outside the UNEP Regional Seas Programme and UNEP's activities in this field; and

(b) Promoting cooperation between regional institutions concerned with the marine environment, other regional institutions such as regional development banks, the private sector and non-governmental organizations.

15. At the global level, UNEP, in close collaboration and consultation with relevant organizations and institutions, will (paragraphs 77-79 of the Global Programme of Action):

(a) Convene periodic intergovernmental meetings to contribute to the periodic reviews of the marine environment by the Commission on Sustainable Development [4], in order to

(i) Review progress on implementation of the Programme of Action;

(ii) Review the results of scientific assessments regarding land-based activities upon the marine environment provided by relevant scientific organizations and institutions, including GESAMP (Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, sponsored by IMO/FAO/UNESCO-

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[4] See the Commission on Sustainable Commission decision on Decision-Making on Oceans (3 May 1996)

IOC/WMO/WHO/IAEA/UN/UNEP);

(iii) Consider reports provided on national plans to implement the Programme of Action;

(iv) Review coordination and collaboration among organizations and institutions, regional and global, with responsibilities and experience with respect to prevention, reduction and control of impacts upon the marine environment from land-based activities;

(v) Promote exchange of experience between regions;

(vi) Review progress on capacity-building and on mobilization of resources to support the implementation of the Programme of Action, particularly by countries in need of assistance (as defined in the Global Programme of Action) and, where appropriate, provide guidance; and

(vii) Consider the need for international rules, as well as recommended practices and procedures, to further the objectives of the Programme of Action.

(b) Contribute to regular review by the Sub-committee on Oceans and Coastal Affairs of the Administrative Committee on Coordination of ways to improve the implementation of the Global Programme of Action; the Sub-committee should further be asked to consider how interested Governments may contribute to this process; and

(c) Support the establishment of the clearing-house mechanism for the Global Programme of Action, particularly through [5/]:

(i) Establishment of an inter-organizational steering group, which will be chaired by UNEP and will meet on a regular basis to direct establishment and operation of the clearing-house mechanism. This group would coordinate the basic design and structure of the data directory, as well as linkages to information delivery mechanisms. In addition, working with and through the experts groups created for each source category, it would establish a common format for individual source-category components and for cross-referencing among components; and

(ii) Consultations between that inter-organizational steering group and interested Governments.

This work should be done in the light of the designation of lead organizations (s) for the development and up-dating of each source-category component of the data directory, with the aim of identifying the appropriate mix of information-delivery systems and facilitating the use of the clearing-house by States and regions].

16. The collaboration of UNEP and its partner agencies, as well as relevant global and regional programmes, structures and agreements, will be essential for successful implementation of the Global Programme of Action. Such collaboration will ensure that implementation of the Global Programme of Action will be approached in a wider context, encompassing, *inter alia*, concern for human health (World Health Organization, WHO), productivity of coastal areas (Food and Agriculture Organization of the United Nations, FAO), loss of biodiversity (Convention on Biological Diversity, CBD and others), radiation protection and marine pollution monitoring (International Atomic Energy Agency, IAEA), retarded development and poverty (United Nations Development

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[5/] A preliminary timetable is given in paragraph 110.

Programme, UNDP), shifting demographic patterns (United Nations Centre for Human Settlements, UNCHS/Habitat), declining food security (FAO, World Food Programme, WFP), global environmental change (International Geosphere-Biosphere Programme, IGBP of International Council of Scientific Unions, ICSU), nature conservation (World Wide Fund for Nature, WWF, World Conservation Union, IUCN), marine pollution monitoring and radiation protection (International Atomic Energy Agency, IAEA, and others). 6/

17. A major task of UNEP, as Secretariat of the Global Programme of Action, will be establishment of a Coordination Office for facilitating implementation of the Programme of Action. In addition to coordinating relevant activities within UNEP, the Coordination Office will facilitate the collaboration of partner agencies, inter alia, in the following specific fields, thereby facilitating a coordinated implementation of the Global Programme of Action:

(a) Provision of assistance for strengthening and building the regional, subregional and national capacities relevant to implementation of the Global Programme of Action;

(b) Exchange of information on experience gained in the development and implementation of regional, subregional and national programmes to control the effects of land-based activities;

(c) Organization of activities designed to raise awareness about the Global Programme of Action, and the need for action to control the negative impacts of land-based activities; and

(d) Monitoring of, and reporting on, progress in implementation of the Global Programme of Action.

UNEP functions as United Nations agency

18. The overall role of UNEP under this designation will be to:

(a) Coordinate the relevant activities within UNEP's workprogramme; and

(b) Revitalize the UNEP Regional Seas Programme, in particular by facilitating appropriate activities of the regional programmes.

19. The work of UNEP's programmes described in Annex III will have an important contribution to make to the implementation of the Global Programme of Action, specially those related to the integrated management of water and to the protection of habitats.

20. The regional seas programmes and organizations within the UNEP Regional Seas Programme will be encouraged to provide an integrated framework for national action programmes. The advantages and benefits from this approach will be twofold:

(a) As existing regional seas programmes and other regional programmes already encompass the protection of the marine environment from land-based activities as a main goal, they provide a "ready-made" programmatic, institutional and legal framework and organizational

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6/ The mechanisms through which the collaboration between UNEP and the partner agencies will be ensured, and the specific roles and responsibilities of each partner agencies defined, are described in paragraphs 23 and 31 below.

infrastructure for the implementation of the Global Programme of Action.7/ The use of these programmes and their infrastructures as regional elements of the Global Programme of Action will obviate the need to develop a parallel mechanism for implementation, thereby avoiding duplication of efforts and wasted resources; and

(b) By incorporating the existing regional seas programmes activities into the wider framework of a globally coordinated programme, each programme will benefit from mutually supportive activities8/ and will be strengthened through the assistance envisaged to be available through the Global Programme of Action.

IV. ESTABLISHING THE INSTITUTIONAL BASIS FOR COORDINATION OF THE GLOBAL PROGRAMME OF ACTION

Interim period

21. A senior staff member of UNEP's Water Branch has been designated by the Executive Director as the Acting Global Programme of Action Coordinator, to act as UNEP's focal point for all issues pertaining to UNEP's role in implementation of the Global Programme of Action. This individual has been assisted by staff members of the Water Branch and an Interim Coordination Office has been established as part of the Water Branch (see paragraphs 26-28 below).

22. The Interim Coordination Office will draw on support from the relevant programme and support units of UNEP, as well as on anticipated support from partner agencies (see annexes II - V below).

23. As an initial effort directed to an efficient and streamlined cooperation among the regional programmes (see annex II), and with potential partner agencies (see annexes IV and V) in implementation of the Global Programme of Action, an ad hoc consultative meeting of representatives of the regional programmes was organized (Geneva, 13-14 May 1996), followed by ad hoc joint consultative meeting of representatives of regional programmes and the potential partner agencies (Geneva, 15-16 May 1996). This implementation plan also reflects the thoughts of these previous consultations.

Structure of the coordinating mechanism

24. Assuming the main proposals described in this implementation plan are endorsed by UNEP's Governing Council at its nineteenth session, and subject to availability of funds, UNEP's interim coordinating arrangement will be replaced by a small unit (Coordination Office) established within UNEP's Water Branch. Its tasks will be to assist in discharging UNEP's secretariat functions for the Global Programme of Action, by meeting the evolving day-to-day needs for coordinated implementation of the Programme.

7/ The countries participating in the 15 regional seas programmes and other regional programmes described in annex II below include most coastal States. Eleven of these programmes are based on regional conventions, including five protocols specifically dealing with control of land-based activities harmful to marine environment. The major organizations of the United Nations system are already involved in and support activities related to the Global Programme of Action in a number of regional seas programmes and other regional programmes.

8/ For instance: use of guidelines, methodologies and approaches tested and proved as useful in one region could be adapted to the needs of other regions; training could be organized on interregional basis; etc.

25. The main task of the Office will be to coordinate and facilitate implementation of the Programme of Action. In substantial matters the Office will be assisted by relevant staff from UNEP's Regional Offices and Coordination Units of UNEP's Regional Seas Programme within the Water Branch (see Annexes II and III).

26. The tasks (including staff already existing and additionally needed, see paragraph 28 below) of the Coordination Office will include:

(a) To coordinate overall implementation of the Global Programme of Action. This task will be performed by a Programme Coordinator with:

(i) Broad expertise and experience in coordination and management of large-scale multidisciplinary programmes involving Governments, organizations of the United Nations system, other intergovernmental and non-governmental organizations, business and financial sectors; and

(ii) Knowledge acquired through first-hand experience in dealing and handling substantive issues pertinent to the Global Programme of Action;

(b) To facilitate coordination of the Global Programme of Action, mainly at the regional level:

These tasks will be performed by two senior Programme Officers, with expertise in integrated coastal area and river-basin management;

(c) To coordinate and facilitate the clearing-house mechanism under the Programme of Action:

In this task, the Coordination Office will be assisted by a senior Information and Data Management Officer with relevant expertise;

(d) Management of funds available to the Programme of Action:

This task will be performed by UNEP's Water Branch Fund Management Officer;

(e) Mobilization of additional resources needed for implementation of the Programme of Action (including those from GEF), providing input on this issue for the consideration of the intergovernmental meetings, as provided in paragraph 64 of the Global Programme of Action; develop and maintain the general public awareness on matters related to the Programme; and assist in matters related to the clearing-house:

These functions will be performed by a Resource Mobilization Officer;

(f) Support on administrative and general matters, data processing and documentation:

These tasks will be performed by four general staff members.

27. Within these tasks, the initial priorities for the Coordination Office will be:

(a) To promote the effective participation in the clearing-house mechanism of the partner agencies, Governments and other organizations which can help;

(b) To encourage regional programmes and organizations to identify the priorities for action within their regions; and

(c) Assist partner organizations by developing guidance on how they may participate in implementation of the Global Programme of Action.

28. Of the above-noted 10 staff members, six (one senior Programme Officer, the Fund Management Officer, the Resource Mobilization Officer and three support staff) will comprise existing staff from UNEP's Water Branch. Further, part of the staff time of the Information and Data Management Officer are being provided by an existing senior UNEP staff member. The Programme Coordinator is currently being recruited.

29. The Global Programme of Action Coordination Office is part of the Water Branch, and it is therefore initially located at UNEP's Nairobi headquarters in order to benefit from the proximity of:

(a) Substantive programme units of UNEP expected to play a major role in supporting the implementation of the Global Programme of Action; and

(b) UNEP's service units providing logistic support for the functioning of the Office (see annex III).

30. The ultimate location of the Coordination Office will be decided in consultation with Governments, taking into account the comparative advantages[9] of the possible alternative locations.

31. To facilitate technical coordination and cooperation, UNEP will regularly convene meetings of key partner agencies, representing regional and international organizations having primary roles and responsibilities in implementation of the Global Programme of Action. To facilitate regional coordination, the Coordinating Units of UNEP's Regional Seas Programme, as well as other regional seas programmes, will be invited to participate. The meetings will be organized by the Coordination Office and chaired by the representative of UNEP. The meetings will be held to review the status of the implementation of the Programme, experiences gained, problems encountered, assistance required, plans for the forthcoming period, and ways and means to provide an effective support to the implementation of the Global Programme of Action, through improved cooperation between UNEP and its partner agencies.

V. IMPLEMENTING THE GLOBAL PROGRAMME OF ACTION

32. The implementation of the Global Programme of Action will be addressed simultaneously at the national, regional and global levels, through a series of interlinked, parallel and partially-overlapping activities, within the framework of a timetable and with clearly-defined responsibilities for producing the concrete results or outputs identified for each of the steps agreed at the meetings mentioned in paragraph 31 above.

National and regional action programmes

33. The cornerstone for successful implementation of the Global Programme of Action will be national, subregional and regional action programmes. International cooperation will often play a central role in supporting such programmes in enhancing capacity-building, technology transfer and cooperation and financial support. Fostering and facilitating the formulation, adoption and implementation of these programmes will be a central task of UNEP and its partner agencies.

34. By recognizing land-based activities as a global problem, the Washington Conference also recognized that solution of the problem should be sought through international cooperation.

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[9] Such as operational costs, ease and effectiveness of coordination, access to appropriate facilities, and contribution of host Government towards the operational costs and staff needs of the Office.

Therefore, in addition to being part of the general framework of the adopted Global Programme of Action, national action programmes should be:

(a) Primarily coordinated with neighboring countries sharing adjacent coastal waters and, as appropriate, associated drainage basins; and

(b) Developed in the context of existing or evolving wider, global and regional, environmental protection and development agreements and programmes.

35. States recommended the framework guidelines developed in chapter II of the Global Programme of Action as a means of formulating national and regional action programmes. Initial steps should include comparison of the framework guidelines with the capabilities and capacity of existing national and regional programmes.

36. In regions with existing mechanisms for regional cooperation which are relevant to implementation of the Global Programme of Action, the organizations coordinating such cooperation (see annex II below) will be the focal points for organizing the implementation of the Global Programme of Action at the regional level, and integrating that work with their other activities as well as with the relevant activities of other organizations within the respective regions. These organizations also will be expected to be the main channels for delivery of assistance available through the Global Programme of Action to countries of their regions. Regional strategies and programmes to control the negative effects of land-based activities, some with quite precise targets and timetable for their implementation, already exist for a number of regions (e.g., the Baltic, Mediterranean, Oslo and Paris Commissions, East Asian Seas, Wider Caribbean, South-East Pacific). Workshops in these regions will concentrate on adapting regional strategies and programmes to the broad requirements of the Global Programme of Action.

Regional workshops

37. A series of regional technical workshops of Government-nominated experts, as well as representatives of relevant international organizations, funding agencies, international/regional development banks and, whenever possible, the private sector and experts of non-governmental organizations, will be organized by UNEP as Secretariat of the Global Programme of Action in cooperation with relevant regional organizations (see annex II below) and partner agencies (see annexes IV and V below), as a means of strengthening national capabilities for protection of the aquatic environment from land-based activities, and to promote regional and subregional cooperation. More specifically, the workshops will be called to:

(a) Review the general objectives (paragraphs 18-35 of the Global Programme of Action) and implications of the Programme;

(b) Identify possible elements of regional framework strategies, with special reference to recommended approaches by source categories (chapters II-III of the Global Programme of Action);

(c) Consider the requirements for development and implementation of national action programmes, including the assistance required and available for this purpose through the organizations supporting the Global Programme of Action; and

(d) Design and agree on regional strategic programmes to address land-based activities.

38. For the workshop's participants, special attention will be drawn to the need for:

(a) An integrated approach for the development of national action programmes, which should encompass not only concern for the marine and coastal environment but which must also take into account the protection of associated river basins, as appropriate;

(b) Placing national action programmes in the framework of existing or evolving national environmental and development programmes, strategies and policies;

(c) Flexibility in the design of action programmes, to ensure their readily adaptation to new information on the effectiveness of particular activities carried out under the programmes;

(d) Subregional, regional and global cooperation in implementation of national action programmes, including cooperation with regional economic groupings, relevant regional and international organizations, development banks, and relevant existing regional bodies, authorities and programmes (e.g., river-basin authorities and commissions, programmes operated under regional seas conventions and action plans); and

(e) Development of options for representation of non-governmental organizations and private sector from the region to contribute to the development and implementation of national and regional action programmes.

39. The workshops will tentatively comprise the following schedule (dates and venues for those in 1997 still tentative)10/:

(i) South-East Pacific (Lima, November 1996) (5 States);

(ii) Red Sea and Gulf of Aden/Kuwait Action Plan regions (Bahrain, December 1996) (14 States);

(iii) East Asian Seas (Bangkok, February 1997) (10 States);

(iv) Mediterranean (Athens, March 1997) (20 States);

(ix) South Pacific (Apia, April 1997) (19 States);

(vii) Caribbean (Kingston, May 1997) (28 States);

(vi) West and Central Africa (Abidjan, June 1997) (21 States);

(v) Eastern Africa (Nairobi, July 1997) (9 States);

(viii) South-West Atlantic (Rio de Janeiro, August 1997) (3 States);

(x) Black Sea (Istanbul, September 1997) (6 States);

(xi) South Asian Seas (Colombo, October 1997) (5 States); and

(xii) Northwest Pacific (Beijing, November 1997) (5 States).

40. To assist with the provision and evaluation of data referred to in paragraph 37 (b) above, guidance on reporting parameters and format most be developed at an early stage. It is also recognized that some existing national and regional reporting mechanisms may already be sufficient for this purpose.

10/ The number and schedule of workshops will be determined upon consultations with relevant regional organizations, taking into account funds available to support their convening.

Assessment of point and nonpoint sources and land-based activities

41. As a basis for scientific assessments on the impact on the marine environment [see paragraph 77 (b) of the Global Programme of Action], periodically updated regional assessments on land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment will be prepared. These assessments will be based on data and information provided by Governments, as well as databases of relevant regional programmes (see annex II below), agencies of the United Nations system, intergovernmental and non-governmental organizations.

42. The regional assessments will be prepared in the framework of the regional programmes described below in annex II. Relevant information is already available for many regions and, as a matter of priority, assistance has to be provided for preparation of assessments for the regions for which they are missing.

Assessment of impacts on the marine environment

43. Based on these regional assessments of sources and activities, regional impact assessments will be prepared. These impact assessments will provide a background against which the relevant structures governing the implementation of regional programmes will consider the formulation of regional strategies, priorities and action programmes. Preparation of regional assessments will involve government and other designated experts from the regions.

44. Based on these regional impact assessments, a global assessment will be prepared. Preparation of the global assessment will be under the overall coordination of UNEP as Secretariat of the Global Programme of Action, with relevant international organizations and UNEP's substantive programme units playing leading roles. Experts recommended by Governments, international scientific organizations and major non-governmental organizations (e.g., IUCN, WWF, Greenpeace) also will be involved.

45. As a first step towards preparing a global assessment, the Twenty-sixth Session (Paris, 25-29 March 1996) of GESAMP established, under the leadership of UNEP, a Working Group on Marine Environmental Assessments to review the state of the marine environment, including the impacts of land-based activities. The Terms of Reference recommended by GESAMP for this Working Group include, inter alia, "to undertake major periodic assessments of the condition of the marine environment with emphasis on the effects of, and threats posed by, anthropogenic activities at approximately decadal intervals; a report on 'Land-based Sources and Activities Affecting the Quality and Uses of the Marine, Coastal and Associated Freshwater Environment', will be a first step towards the next periodic assessment of the state of the marine environment."

46. At the first meeting of the Working Group (Geneva, 17-18 May 1996), inter alia, a Sub-group was established to coordinate preparation of regional impact assessments, expected to be available in 1998.

Assistance to countries in need of assistance

47. Based on the provisions for international cooperation in the Global Programme of Action (chapter II, as well as capacity-building and mobilizing of financial resources), the clearing-house mechanism will facilitate the provision of help to countries in need of assistance for developing and implementing national and regional action programmes. The assistance will cover a variety of issues, including:

(a) Preparation of national or regional action programmes, including short- or long-term programmes, projects, measures, policies, strategies, institutional and legal mechanisms to alleviate the identified problems related to land-based activities, including assessment of problems related to land-based activities and identification of options for possible solutions of recognized problems related to land-based activities, including identification and development of economic instruments, especially those related to the private sector11/;

(b) Strengthening or establishing national institutions needed to deal effectively with administrative, technical and legal aspects of the Global Programme of Action;

(c) Promotion of new information technologies that facilitate knowledge transfer within and between countries, particularly from developed countries to countries in need of assistance;

(d) Exploring the use of innovative financing mechanisms to assist the implementation of national and regional action programmes;

(e) Support to training programmes related to the Global Programme of Action (fellowships, short- and long-term courses, seminars, workshops);

(f) Identification of experts, organizations, institutions and centres of excellence for research, management, ideas and concepts, contingency planning, monitoring, and assessment, including environmentally sound technology assessment;

(g) Short-term advisory services; and

(h) Identification of opportunities for projects contributing to implementation of the Global Programme of Action that could be supported by the private sector, including industry and banks.

48. Countries in need of assistance are frequently in a disadvantaged position because they are neither sufficiently aware of the possibilities for obtaining certain type of assistance, nor are they familiar with the channels through which such assistance could be obtained. Therefore, information will be available through the clearing-house mechanism about the types of assistance available through the Global Programme of Action, sources of assistance, procedures to be followed in requesting assistance, and criteria for determining the eligibility of a country for assistance.

49. In organizing and providing assistance to countries in need of assistance, special efforts will be made to foster cooperation between developing countries, and to stimulate involvement of non-governmental organizations and private sector in achieving the goals of the Global Programme of Action.

Clearing-house arrangements

50. As a matter of highest priority, a clearing-house mechanism will be established by UNEP as Secretariat of the Global Programme of Action, in cooperation with the interested governments, partner agencies, non-governmental organizations, private sectors, and other sources of information and expertise. It will function as a mechanism for guiding those seeking assistance to appropriate sources for such assistance. The basic functions of the clearing-house will be to identify sources of scientific and technical information relevant to the Global Programme of Action, to mobilize and make available experience and expertise, including the facilitation of effective scientific, technical and financial cooperation, to provide access to sources of information and

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11/ For instance: application of the "polluter pays" and precautionary approach, anticipatory practices, enhancement of industries' self-regulatory capacity, economic-pricing policies, user fees; fines, and internalization of environmental costs.

capacity-building possibilities, as envisaged in paragraphs 42-49 of the Global Programme of Action.

51. The establishment of the clearing-house will be the result of a logical process, i.e. developed to meet users' needs, designed to work in a way helpful to users, and evolve in response to their needs.

52. Establishment of the clearing-house for the Global Programme of Action will draw upon the work of other similar mechanisms[12] within and outside UNEP, and duplication of work will be avoided by seeking association and collaboration with the mechanisms of other organizations.

53. The clearing-house mechanism of the Global Programme of Action will be essentially a "referral system," with UNEP acting as a catalyst between those countries in need of assistance on the one hand and countries, organizations and institutions (including international financial institutions and mechanisms, such as the Global Environment Facility) which may be prepared to respond, on the other hand.[13] Where possible, UNEP will assist in improving the coordination and cooperation among the various mechanisms, including financial institutions supporting activities of the Global Programme of Action, and will also assist countries with particular difficulties (e.g., determination of eligibility) in the preparation and submission of their proposals.

54. The United Nations General Assembly draft resolution on institutional arrangements for implementation of the Global Programme of Action, prepared by representatives of Governments at fourth session of the Commission on Sustainable Development (see paragraph 6 above), calls upon States to take action in the governing bodies of relevant intergovernmental organizations and programmes, so as to ensure these organizations and programmes take the lead in coordinating the development of the clearing-house mechanism with respect to the source categories. These categories, not listed in order of priority, are as follows:

(a) Sewage - the World Health Organization;

(b) Persistent organic pollutants - Inter-organizational Programme for the Sound Management of Chemicals, the International Programme on Chemical Safety, and Intergovernmental Forum on Chemical Safety;

(c) Heavy metals - the United Nations Environment Programme, in cooperation with the Inter-organizational Programme for the Sound Management of Chemicals;

(d) Radioactive substances - the International Atomic Energy Agency;

(e) Nutrients and sediment mobilization - the Food and Agriculture Organization of the United Nations;

(f) Oils (hydrocarbons) and litter - the International Maritime Organization;

(g) Physical alterations, including habitat modification and destruction of areas of concern

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[12] For instance, the IDA.INDEX.CD.ROM database, managed by International Development Research Centre (IDRC), contains over 95,000 records of development activities submitted by more than 120 bodies involved in international or bilateral programmes. Likewise, the Biodiversity Map Library produced by the World Conservation Monitoring Centre is based on information on biodiversity projects supported by all major multilateral or bilateral programmes and some private organizations.

[13] Hereinafter referred to as "recipients" and "donors", respectively.

- the United Nations Environment Programme.

55. These lead organizations should identify and provide guidance to the clearing-house regarding sources of current information, practical experience and technical expertise on (paragraph 44 of the Global Programme of Action):

(a) The nature, pathways, fate and effects of the contaminants or other forms of degradation, including data-quality assurance techniques;

(b) Standards and reference methods for monitoring contamination, as well as its concentrations, or other forms of degradation, including biological-effects monitoring and data-quality assurance techniques;

(c) Policies, measures and strategies for action, including mobilization and generation of resources, that have been successfully applied (and those that have been unsuccessful) in addressing activities generating the source-category contaminants or other forms of degradation (what works and what does not);

(d) Economically rational, environmentally-sound and cleaner practices, techniques and technologies to prevent, mitigate and/or control adverse impacts on the marine environment on land-based activities

(e) International and regional organizations (including non-governmental organizations) with relevant expertise and experience; and

(f) Intergovernmental and private sources of assistance, scientific, technical and financial, including such matters as the terms and conditions for the provision of assistance.

56. In addition, this information should also identify possible increases of emissions to other compartments of the environment which might result from prevention or reduction of emissions to the marine environment, in order to ensure integrated environmental policies, measures and strategies on the source categories and the economic sectors generating them.

57. As a first step to establishing the inter-organizational group to develop the basic design and structure of the clearing-house data directory, and its linkages to information-delivery mechanisms (as proposed by paragraph 46 of the Global Programme of Action), UNEP convened an ad hoc meeting with representatives of several agencies (Geneva, 14-15 May 1996). These agencies agreed to collaborate with available resources; however, they also pointed out that their active participation in implementation of the Programme of Action will depend on action by the governing bodies of each agency. Recommendations of the ACC Sub-committee on Oceans and Coastal Areas, as well as the ACC Suc-committee on Water also will be considered.

58. At the above-noted meeting, it was recognized that the clearing-house mechanism envisaged in the Global Programme of Action would require human and financial resources not now readily available. Therefore, it was agreed to approach the issue pragmatically, starting now with what could be done within existing resources, and also working to ensure that efforts to raise the substantial new funding necessary to implement the Global Programme of Action would be undertaken.

59. A technical meeting of experienced organizations and potential users was convened by UNEP (Geneva, 26-27 September 1996) to prepare the initial specifications, drawing on established systems; the main conclusions of the meeting are given below.

60. An effective clearing-house mechanism must be founded on close working relationships between the cooperating organizations. The intersecretariat and interagency consultations organized by UNEP to discuss implementation of the Global Programme of Action have begun to

build such relationships, and meetings of the inter-organizational group called for in the Global Programme of Action should continue that process. Other meetings to plan and implement the clearing-house may be appropriate for regional groupings and source-categories.

61. At the global level, the clearing-house will be structured around organizations responsible for source-categories, as specified in the Global Programme of Action and further elaborated in the previously mentioned draft United Nations General Assembly resolution. It is hoped that the management and governing bodies of the organizations concerned will take rapid action to provide a mandate and resources for implementing the Global Programme of Action. This global level of clearing-house organization should ensure access to the body of international scientific and technical information and experience.

62. A major regional clearing-house component is necessary to provide user access and to adapt information to local circumstances. The regional seas programmes and commissions responsible for regional sea areas will provide the regional institutional framework for clearing-house activities. However, the regional organizations do not have mandates to provide assistance to international users, and cannot be expected to make major contributions to a global clearing-house mechanism unless adequate resources are provided. Their role in the clearing-house will focus initially on servicing users within their regions. The regional programmes and commissions will also be important nodes in the receipt of requests for the clearing-house and the delivery of information to users within their regions.

63. Links to the national level will be developed as the clearing-house mechanism is implemented. Countries with major experience in this area may wish to contribute actively to the establishment of the clearing-house. Where specialized national activities do not yet exist, INFOTERRA national focal points and UN/UNDP representatives can provide national points of access to the clearing-house.

64. The initial version of the clearing-house could be established by networking and linking relevant existing activities in UNEP and the agencies responsible for source categories at the global level, regional programmes and commissions at the regional level, and national centres and focal points. Other organizations with competence in some area of interest are welcome to participate in the clearing house, as decided by the inter-organizational group. This pooling of experience will help to improve efficiency and avoid duplication, and facilitate the global exchange of practical experience.

65. UNEP should collect information on what each partner already has to contribute to the clearing-house system, perhaps through a simple questionnaire to be circulated over the next several months. The identification of existing data directories will be particularly important. This will complement the extensive documentation already being assembled through the Earthwatch Coordination office in Geneva to support the assessment of land-based activities in cooperation with GESAMP.

66. While the Global Programme of Action proposes that the WWW/Internet be used as the basic clearing-house access mechanism, it is essential to recognize that the simple provision of technical information through electronic means will seldom by itself be able to solve specific problems. While many similar questions are frequently asked, the solutions may be different depending on local circumstances. The approaches appropriate to industrialized areas may not be the same as those for small islands or tropical coastal countries. One major role of the clearing-house mechanism must be to help users find experts with the appropriate experience to adapt general solutions to their specific circumstances. This may be possible by identifying the authors of relevant publications, by accessing databases of experts maintained by governments, regional or international organizations, or simply by contacting a knowledgeable official for specific recommendations.

67. An essential first step in the design of the clearing-house data directory will be to agree on

common terminology and keywords or concepts to define the scope of the information relevant to land-based activities affecting the marine environment. Identifying frequently asked questions may help with this process. This terminology should correspond as far as possible to terms and classifications already in use in standard thesauri and information systems, both at a higher level of aggregation in the United Nations, and in the more specialized lists used by the agencies and regional programmes. A list covering the areas of concern of the Global Programme of Action will be prepared through consultation with all those concerned, particularly the United Nations agencies responsible for source-category components. Basic formats, hierarchies and relationships for organizing the information will also be worked out, building on proposals made at the technical meeting. A first agreed list will be implemented on a trial basis by the end of 1996. This list should provide the basis for gradually assembling a virtual data directory for the system built on many organizational sub-components, as requested in the Global Programme of Action.

68. To keep the work load generated by the clearing-house mechanism to a reasonable level for all the partner organizations, electronic and Internet tools will be designed to facilitate networking between organizations and regions, to direct inquiries to the most appropriate sources of information, and to distribute commonly used documents. Initially this may just involve linking existing WWW sites. At the same time, a user interface for use both on the Web and off-line, building perhaps on the prototype already developed by the Earthwatch Coordination office or some similar system, and including both information request formats and formats for entering information on experts, bibliographic references, technology transfer and financing, will be developed for gradual introduction, as a mechanism to allow all cooperating partners to enter information available to the clearing house in common searchable formats, and to facilitate user access. The Global Programme of Action Coordination Office will maintain the central node in this Internet-based clearing house delivery mechanism, with other partners posting information as relevant on their own Web sites in compatible formats. This information could either be accessed directly at each site, or up-loaded periodically to a central server to facilitate searches, as appropriate. UNEP will organize further technical consultations to work out the details of the prototype system.

69. With the increasing flood of questionable information made accessible through new information technologies, it is essential that only the highest quality information should be available through the clearing house. To ensure adequate quality control, only information reviewed and approved by one of the partner organizations will be posted on clearing-house sites. The groups of experts for each source-category proposed in the Global Programme of Action will contribute to ensuring the quality of information.

70. As far as possible, the mechanism will be built and maintained with information already collected and assessed by the partners. It should have procedures for internal monitoring of the use of the system, so that parts receiving heavy use can be strengthened and expanded, and those used little or not at all can be simplified or cut back. It should thus be able to grow and adapt to the real needs of its users. Each entry or document in the clearing-house should have associated meta data in some form of an electronic tag or cover sheet with all the information necessary to facilitate its access: title, source, date and time frame, type, key words, geographic area, etc. Formats and search tools will be compatible with what is being proposed by the UN Information Systems Coordination Committee.

71. Provision will be made for alternate forms of access and data delivery, ranging from receipt of requests and delivery of materials in hard copy, to informal networking by telephone to locate pertinent information and expertise, to the extent that resources are available to provide this type of service.

72. The infrastructure of this first generation system will be a decentralized network of cooperating partners coordinated by the Global Programme of Action Coordination Office in UNEP, which will be responsible for the central communications. Guidance will be provided by meetings of the inter-organization group of principal participants at the global level. Similar meetings among

the participants may also be appropriate at the regional level, and among people concerned with a single source category, to build the networks of individual relationships that can make the system more efficient.

Possible process for establishing the clearing-house

73. A working agreement among the United Nations agencies responsible for components of the clearing-house should be obtained on the design of a prototype for the Internet component of the clearing-house (e.g., keywords and participants in the test).

74. The prototype should draw on contributions from regional organizations, selected non-governmental organizations and the WHO, with respect to elaboration of the sewage source category. If possible, it would be useful to elaborate a second source category. A possible candidate is POPs, for which a home page was prepared by UNEP Chemicals (IRPTC) in response to UNEP Governing Council decision 18/32.

75. With respect to quality control, paragraph 47 of the Global Programme of Action calls on each lead United Nations agency to create a group of experts. To reduce the cost of this component of the clearing-house, information received from certain sources (e.g., national Governments and regional seas programmes) would be assumed to have been quality-controlled.

76. The meeting recommended that a paper be developed which identifies steps to improve and expand the use of Internet in developing countries. This could include, inter alia, a cooperative approach with UNDP and an awareness-raising effort. There is also the possibility of establishing Internet sites in the offices of UNDP Resident Representatives, regional seas programme secretariats and INFOTERRA.

Technical issues related to the clearing-house

77. Identification of Frequently Asked Questions (FAQs) may be an appropriate starting point to define a user oriented approach towards accessing the information in the source-category. Within each FAQ the following subdivisions were proposed: problem description, technical analysis, problem solutions (including case studies), and referral services. The latter will include publications (bibliographic database and full text document retrieval), experts database (yellow pages), and legislation database (e.g., international treaties). This organization of the information is well in accordance with the structure specified in paragraph 44 of the Global Programme of Action.

78. The cooperative structure proposed will be a partnership of national, regional and international organizations whereby one agency will act as the coordinator for a particular source category as defined in the draft United Nations General Assembly resolution. In order to facilitate access to the information by the non-Internet linked users, it was recommended to publish the data directory component as a CD-ROM. However, this would require the compilation of the data directory component by the respective lead agencies.

79. In recognizing the need to strengthen the capacity of national and regional bodies to enable their participation in the clearing-house mechanism, the following steps could be taken: (i) countries should raise the priority of the clearing-house mechanism at the governing bodies of relevant regional bodies; (ii) assistance should be provided to regional bodies to establish or strengthen their capacity to develop appropriate links to the Internet; (iii) ongoing support for compilation and standardization of information relevant to the clearing-house mechanism; and (iv) resources should be mobilized for raising awareness of the clearing-house mechanism and for response to requests related to the clearing-house.

Proposed workplan for implementation of a first generation system

80. An interlinked network of WWW sites on the Internet will provide an important clearing-house tool to improve networking between partners. The target for this supporting element of the clearing-house will be to have an initial pilot electronic version operational within a year, with significant information holdings from at least a few source categories and with a regional dimension. The draft United Nations General Assembly resolution calls for early development of the sewage source category, although WHO indicated during the meeting that they may have practical difficulties in converting their extensive printed information holdings into forms that could be accessible through the clearing-house. UNEP has already established an Information Clearing-house on POPs, another source category, on the Web. Further steps necessary to implement this information delivery mechanism include completion of a prototype functional basic clearing-house Web system including a central home page Web site server and user interface, links to all the related Web sites forming part of the clearing-house, and an information bank that will be developed by the Global Programme of Action Coordinating Office for off-line information. Simple techniques to incorporate off-line documents in the system should also be developed. A start should be made on mechanisms to incorporate user evaluations using adaptive knowledge base technology. The Global Programme of Action Coordination Office should prepare and circulate an outline of operational procedures for the clearing-house consistent with the principles of subsidiarity, responsibility, transparency, efficiency and economy adopted by the UN system.

81. On the basis of this initial operational system, it should be possible during 1997 to plan for the progressive adaptation of clearing-house Web site software at both the central site and partner sites, the ongoing incorporation of appropriate data sets and information into the information banks, an ongoing evolution of web site links to provide a simple user interface, and further development of advanced search techniques to respond to requests, including automated keyword generation, user evaluations and artificial intelligence/pattern matching for complex requests. This evolutionary development of the system can take place while it is already in operation and being gradually extended to the full scope anticipated in the Global Programme of Action.

82. Each agency responsible for a source category or other component of the Global Programme of Action should make plans to establish and maintain, on their own Internet site, an electronic component of the data directory related to their source category, referred to in the draft United Nations General Assembly resolution. These subsidiary sites will be linked into a "virtual" clearing-house.

83. Each regional seas programme or other entity with regional responsibilities under the Global Programme of Action should also establish and maintain certain regional clearing-house functions for expertise and data from their own region. Ideally these should include regional data directories on the WWW, either directly if their Internet access permits, or through the cooperation of a convenient partner. Making regional information available in this way will not only assist member governments within a region, but will also share that information globally without creating an additional burden on regional secretariats.

84. A public information campaign about the Global Programme of Action should be organized to make the clearing-house services more widely known and to attract users. The existing information networks, such as the United Nations representatives in each country and the INFOTERRA network of national focal points, will be informed of the clearing house so that they can become active partners in handling requests. These networks and the established networks and direct contacts of regional organizations will be essential to reach sources and users who do not yet have adequate electronic access to use the system directly.

Reaching the non-Internet user

85. Disseminating information from the clearing house to users in developing countries who do not have Internet access is a major issue which needs to be addressed. While it is possible to

produce a clearing house CD-ROM containing the information located on the various source-category home pages, the distribution of limited printed products is another option to be considered. With respect to the information delivery mechanisms, it will be necessary to engage the services of existing national and regional partners such as the INFOTERRA network of government-designated national focal points working in tandem with regional secretariats and the information focal points within each participating agency/programme.

86. Developing country users will also be sources of information for the clearing house and these sources need to be identified and tapped. Queries related to the subject coverage of the clearing house will also be received from developing countries and again, such users will need to be served through organic networks which are part of the overall clearing house mechanism.

87. Exchanging information between clearing-house information sources and users could become an integral part of the usual information service provided by INFOTERRA focal points on environmental matters. However, in order to access the WWW-based information maintained in the 'virtual' clearing-house, it will be necessary for the agency/programme focal points to provide a query-response service by conducting WWW searches and forwarding the output via e-mail and/or hard copy to the end user. Also, a quarterly bulletin of new information sources in each source category could be produced by the agencies/programmes for dissemination by partners.

88. At the national level, INFOTERRA focal point managers should be able to refer a certain proportion of information requests to the relevant source by searching various databases (e.g., INFOTERRA, GRID Meta-data Directory, INRES-LITE and bibliographic databases). INFOTERRA focal points are well placed to disseminate Global Programme of Action information at national level and also to provide the data directory with two important products: (i) national directory of institutional information sources on the environment; and (ii) national environmental bibliography. Many focal points can also provide translation services should key Global Programme of Action documents need to be translated to the local language.

Mobilization of financial resources

89. The clearing-house mechanism will facilitate responses from appropriate sources to requests for assistance. However, available expertise and resources are clearly insufficient to respond to all requirements likely to be posed for implementation of the Global Programme of Action, particularly for countries in need of assistance. Therefore, efforts will be made to mobilize additional and new financial resources, as identified in paragraphs 50-71 of the Programme, and to facilitate transfer of environmentally sound technologies for managing problems related to control of the negative effects of land-based activities.

90. The role of UNEP and partner agencies in facilitating mobilizing additional resources will be to continue to assist the potential recipients in:

(a) Identifying needs for assistance that requires new and additional financial resources;

(b) Formulating requests for assistance suitable for consideration by potential donors;

(c) Identifying potential donors able to respond to such requests;

(d) Establishing, at the request of the potential recipient countries, initial contacts and mediating, as appropriate, between recipients and potential donors14/.

91. The Coordination Office also will play a facilitating role, through the partner agencies, in assisting countries to identify their needs for assistance and to formulate requests for assistance of

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14/ Countries will be encouraged to approach the donors directly.

interest to donors. The Office will be assisted in this task by a number of substantive programmes and units of UNEP (see annex III below) and by partner agencies cooperating in implementation of the Global Programme of Action (see annexes II, IV and V below).

92. An important role of the clearing-house will be to promote and facilitate direct contacts between potential recipients and potential donors. Identification of potential donors will be either by presentation of requests for assistance to prospective individual donors, or to meetings of potential donors. UNEP will play a facilitating role in individual cases, and an information role mostly on a regional basis. This function of UNEP will be discharged in cooperation between the Coordination Office and UNEP's Resource Mobilization Unit (see annex III below).

93. Funding and implementation of projects and activities supported through the described mechanism will be negotiated directly between recipients and donors. UNEP and the partner agencies can play a role in such negotiations only upon request of the donors or recipients.

94. Likewise, for the above-noted activities:

(a) UNEP will not normally serve as a direct executing agency, although the respective donors and recipients may ask a partner agency (including UNEP) to do so; and

(b) Funds could be channelled through UNEP only in exceptional cases, and upon explicit request of donors and recipients.

95. Eligibility of countries for assistance through the described mechanism will be based on the rules governing provision of assistance applicable by the respective donors[15].[16]

Awareness building

96. Through their participation in the process leading to adoption of the Global Programme of Action at the Washington Conference, countries became aware of the assumptions and principles upon which the Programme of Action was based, and of the general requirements posed by its implementation. However, in many cases this awareness is restricted only to certain sectors of governments. Therefore, broad regional and international campaigns will be needed to sensitize all sectors of government and society whose cooperation and involvement is needed to successfully implement the Global Programme of Action (e.g., public at large; scientific and educational institutions; business, trade and religious communities; other non-governmental organizations, particularly those acting as environment pressure groups).

97. UNEP will draw the attention of Governments, directly and through relevant meetings, to the serious environmental degradation and threats to human health posed by land-based activities, and to the mitigation possibilities inherent in the Global Programme of Action.

98. UNEP and Governments together have the important task of informing all sectors of society

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[15] For instance, the organizations of the United Nations system follow UNDP's criteria when deciding about the eligibility of a country for assistance, while other donors follow their own criteria.

[16] The Barbados Programme of Action for the Sustainable Development of Small Island Developing States noted that many small island developing States (SIDS) are denied access to concessionary funding due to a relatively high per capita GDP. It was also recognized that per capita GDP criteria was an inappropriate measure of the real wealth of SIDS, and therefore supported the development of a "vulnerability index" that would reflect the specificities and vulnerabilities of the SIDS.

of the need to control pollution from land-based activities. In cooperation with other international agencies, and within available resources, UNEP will promote campaigns for this purpose and to support governments, on request, in this work.

99. Non-governmental organizations will have a particularly important role to play in awareness-building, and in fostering public pressure on national decision makers, for action needed to protect the aquatic environment from undesirable and harmful land-based activities.

100. Ideally, a series of short popular booklets, customerized to meet the needs of different regions, will be prepared. The booklets will highlight, in non-technical language, the marine pollution problems associated with land-based activities, the root causes and possible solutions of these problems, and possibilities offered by the Global Programme of Action to obtain assistance for their solution.

101. Parallel to preparation of the booklets, the possibilities for using other media (press, television, radio, internet, video tapes, compact disk, posters, slides, etc.) and events (e.g., meetings organized on subjects related to marine pollution from land-based activities) for spreading information and raising awareness about the Global Programme of Action could be explored.

VI. MONITORING, REPORTING AND REVIEWING PROGRESS IN IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

102. Monitoring progress in the implementation of the Global Programme of Action will be one of the essential secretariat functions performed by UNEP. A distinction should be made between monitoring the implementation of the Global Programme of Action and the field monitoring of the sources and effects of land-based activities carried out through national and regional programmes. The latter is not the subject of consideration in this implementation plan.

103. The official reports received from Governments will be the primary source of information on the status of activities undertaken in the general framework of the Global Programme of Action and their effectiveness. Whenever such activities are undertaken in the framework of regionally coordinated programmes and strategies, the national reports would be received through the organizations acting as coordinators or secretariats of these programmes and strategies.

104. The global assessment (see paragraphs 43-46 above) will provide one basis for reports to periodic intergovernmental evaluation of progress on implementation of the Global Programme of Action.

105. Periodic reports on overall progress in implementation of the Global Programme of Action will be prepared by the Coordination Office and submitted to the biennial sessions of the UNEP Governing Council and relevant intergovernmental meetings (see paragraph 15 above).

106. In addition, each partner agency may wish to inform the relevant meetings convened under their auspices about their specific involvement in implementation of the Global Programme of Action.

VII. FINANCIAL CONSIDERATIONS, WORKPLAN AND TIMETABLE

107. Core support for the implementation of the Global Programme of Action will be provided by UNEP and the partner agencies, including trust funds established under a number of regional programmes described in annex II below. **[AN ESTIMATE OF FUNDS AVAILABLE FROM UNEP FOR SECRETARIAT FUNCTIONS AND IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION WILL BE INCLUDED HERE].**

108. In principle, each country's own public and private sectors is expected to provide financing for implementation of national and regional programmes of action. However, it is acknowledged in

the Global Programme of Action that, for countries in need of assistance, substantial new and additional funding will be required through external financing, particularly funding through grants and concessionary loans, and through various innovative schemes which could act as catalyst for the mobilization of domestic financial resources (e.g., co-financing and joint ventures and underwriting of country risks).

109. The workplan presented in this section focuses on activities supporting coordination the implementation of the Global Programme of Action. It has been updated and revised since the fourth session of the Commission on Sustainable Development and includes actions already taken in furthering implementation of the Global Programme of Action. A more detailed account of actions taken by UNEP since adoption of the Programme of Action is given in an accompanying document presented to the nineteenth session of its Governing Council. The workplans and corresponding timetables related to implementation through regional seas programmes (see annex II) are presented in annex VI below.

110. The indicated workplan and timetable in this implementation plan are subject to modification and refinement after further consultations with Governments and partner agencies.

111. The presentation of the workplan and timetable is consistent with the major subdivisions used in the previous sections of this implementation plan.

112. Institutional arrangements:

In its role as Secretariat of the Global Programme of Action, UNEP has already convened a number of consultations and meetings regarding institutional arrangements. These are highlighted below, as well as planned activities.

Past activities

- February - April 1996. Bilateral consultations between UNEP and the potential partner agencies regarding their roles and responsibilities in implementation of the Global Programme of Action;

- The Inter-sessional ad hoc Open-ended Working Group on Sectoral Issues of the Commission on Sustainable Development (26 February - 1 March 1996) to consider, inter alia, the proposed arrangements for coordination and implementation of the Global Programme of Action;

- 18 April - 3 May 1996. Fourth session of the Commission on Sustainable Development to consider, inter alia, Chapter 17 of Agenda 21 and, in this context, plans for implementation of the Global Programme of Action;

- May 1996. Appointment by UNEP of Acting Coordinator for the Global Programme of Action, working in the Water Branch, to oversee coordination during the interim period. This individual has been assisted by staff members of the Water Branch and an Interim Coordination Office was established as part of the Water Branch;

- 13-16 May 1996. Ad hoc consultations between UNEP and the partner agencies, including organizations coordinating regional seas programmes, to consider the: (i) workplans and timetables of regional programmes; (ii) assistance required for the implementation of these workplans; and (iii) roles and responsibilities of partner agencies in the implementation of the Global Programme of Action.

Planned activities

- 1997. Establishment by UNEP of the Coordination Office of the Global Programme of Action;

- 1997-8. Inter-agency/inter-regional and intergovernmental consultations on the Global Programme of Action.

113. National and regional action programmes. From November 1996, regional workshops of Government-nominated experts will be held to develop an overview of the current situation in each region regarding pollution from land-based activities, and to promote and facilitate development of (or adaptation of existing) regional and national action programmes. These overviews are closely linked to the planned GESAMP regional assessments.

114. Review and consolidation of information:

Past activities

- 25 - 29 March 1996. Establishment of a GESAMP standing Working Group on Marine Environmental Assessments, with UNEP as the leading agency, and a Sub-group to prepare a report on land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment;

- 17 - 18 May 1996. First meeting of the above-noted Working Group to establish its working procedures, including the role of GESAMP's sponsoring agencies.

Planned activities

- May 1996 - January 1997. Preparation of regional assessments of land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment (in regions where such reviews do not already exist);

- May 1996 - June 1998. Preparation of a global assessment, including an assessment of land-based sources and activities affecting the quality and uses of the marine, coastal and associated freshwater environment, including the identification of "hot spots" and impacts of land-based activities requiring priority actions on the basis of existing information.

115. Assistance to countries and clearing-house arrangements:

Past activities

- April 1996. Organization of the clearing-house initiated;

- 15 - 16 May 1996. First ad hoc meeting of the inter-organizational group to design the clearing-house system;

- 26 - 27 September 1996. First technical meeting on the Global Programme of Action clearing-house.

Planned activities

- 1997. Information about assistance available within the framework of the Global Programme of Action;

- 1997 and onwards. Response to requests for assistance.

116. Mobilization of financial resources.

- 1996 and onwards. As provided in paragraph 89, UNEP and its partner agencies will take account of the Global Programme of Action in their work in helping countries in need of assistance to mobilize additional resources.

- 1997 and onwards. The Coordination Office will keep partner agencies that have the potential to mobilize resources informed about the development of the Global Programme of Action and the estimated needs for financial resources for implementing the Programme.

117. Awareness building:

Planned activities

- May 1996 and onwards. Information to Governments on problems related to land-based activities and opportunities offered by the Global Programme of Action;

- 1996 and onwards. Support to Governments in raising awareness about land-based activities and the Global Programme of Action at the national level;

- 1997. Preparation and distribution of information booklets on marine pollution from land-based activities and the Global Programme of Action;

- 1996 and onwards. Raising public awareness through additional media and mechanisms.

118. Monitoring of the implementation of the Global Programme of Action.

- From 1997. Progress in the implementation of the Global Programme of Action will be monitored.

119. Reporting and reviewing progress in implementation of the Global Programme of Action:

- Mid-1996 and onwards. Preparation of reports reviewing the progress in implementation of the Global Programme of Action;

- Mid-1996 and onwards. Reporting on progress in implementation of the Global Programme of Action to meetings specified in paragraph 83 above;

- To be determined. Convening of periodic intergovernmental meetings to review progress and guide implementation of the Global Programme of Action, according to an agreed schedule.

Annex I 17/

MAJOR GLOBAL PROGRAMMES RELEVANT TO THE IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

This annex contains a short description of major global programmes, with particular reference to their activities relevant to the Global Programme of Action.

CLEANER PRODUCTION PROGRAMME - UNEP/UNIDO/World Bank/OECD

The programme is designed to promote pollution prevention and efficient use of raw materials, including energy and water, and aims at reduction of emission of pollutants from land-based activities. The objectives of the programme are to:

- Increase worldwide awareness of the cleaner production concept;
- Help Governments and industry develop cleaner production programmes, and foster the adoption of such programmes;
- Facilitate transfer of cleaner production technologies;

To meet these objectives, the programme focuses on:

- Preparation, collection and dissemination of information to explain the concept and illustrate technical applications; and
- Capacity-building through training, support to the establishment of UNIDO/UNEP National Cleaner Production Centres, networking of all centres or organizations involved in cleaner production (currently 110 organizations in 51 countries are part of the worldwide network of centres).

Institutional focal point: Ms. Jacqueline Aloisi de Larderel, Director, Industry and Environment Programme Activity Centre, UNEP, Tour Mirabeau, 39-43 quai Andre Citroen, 75730 Paris Cedex, France; Telephone: (33 1) 443 714 50; Fax: (33 1) 443 714 74; e-mail: unepie@unep.fr.

GESAMP18/ JOINT GROUP OF EXPERTS ON THE SCIENTIFIC ASPECTS OF MARINE ENVIRONMENTAL PROTECTION - IMO/FAO/UNESCO-IOC/WMO/WHO/IAEA/UN/UNEP

GESAMP, established in 1969, is a group of distinguished scientists acting in their individual capacities to advise GESAMP's sponsoring agencies on scientific questions, particularly if they are of a multidisciplinary nature, on pollution and contamination of the seas, and their resulting effects, on methods of devising standards and safeguards, and on monitoring and control methods.

17/The information included in this annex was provided in response to UNEP requests. Contributions of the agencies to the clearing-house still have to be define (but see the United nations General Assembly draft resolution prepared by Governments at the fourth session of the Commission on Sustainable Development, paragraph 54 above).

18/ Strictly speaking, GESAMP is neither a "programme" nor an "organization", but it is included in this annex due to its relevance to the Global Programme of Action. For the same reason reference is also made to IPCC.

GESAMP participated in the preparatory process of UNCED concerning the role of science and its contribution to the protection of the marine environment, including consideration of priority contaminants from land-based sources.

GESAMP activities fall into two broad categories:

- Evaluations of specific scientific issues, processes and methodologies relevant to management actions for the protection of the marine environment; and
- Periodic reviews and assessments of the state of the marine environment.

Since 1975, reports and studies prepared by GESAMP have been published in the GESAMP Reports and Studies Series and are available free of charge through its sponsoring agencies. GESAMP studies published since 1989 that are of particular relevance to the protection of the marine environment from land-based activities include topics such as: atmospheric input of trace species to the world ocean; global review of the state of the marine environment; priority organochlorines for marine hazard assessment; coastal modelling; global strategies for marine environment protection; reducing environmental impacts of coastal aquaculture; impact of oil and related chemicals on the marine environment; influences on and consequences of sediment discharge to the coastal zone; monitoring of ecological effects of coastal aquaculture wastes.

Guidelines for marine environmental assessments were prepared and published by GESAMP in order to assist in the preparation of future global and regional reviews on the state of the marine environment. The guidelines are also suitable for the preparation of national assessments recommended by Agenda 21 (17.8(c)).

In mid-1995 GESAMP's sponsoring agencies agreed that the next report on the state of the marine environment should not focus exclusively on marine pollution but should be a review and assessment of all elements necessary to provide a scientific basis and rationale for globally applicable guidance on environmental protection and sustainable resource development, not only reflecting the present state, but also predicting future development, as well as recommended responses.

Institutional focal point: Mr. Oleg Khalimonov, GESAMP Administrative Secretary, International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom; Telephone: (44 171) 735 76 11; Fax: (44 171) 587 32 10.

GLOBAL ATMOSPHERE WATCH (GAW) - WMO

GAW has helped to identify the significant atmospheric inputs of pollutants to oceans and coastal areas. Measurements of air pollutants and of their transport will be important to determining the full impact of land-based activities. These global activities are reinforced by some regional activities monitoring transboundary air pollution.

Institutional focal point: Mr. F. Delsol, Director, Atmospheric Research and Environment Programme Department, World Meteorological Organization, 41 avenue Giuseppe-Motta, Case postale No. 2300, 1211 Geneve 2, Switzerland; Telephone: (41 22) 730 82 12; Fax: (41 22) 740 09 84.

GLOBAL ENVIRONMENT MONITORING SYSTEM (GEMS) - UNEP/WHO/UNESCO/WMO

The GEMS/WATER Programme has two main components, one on assessments and one on capacity building in support of monitoring and assessment. Several data centres are collecting freshwater quality and quantity data, including those on rivers flowing into the oceans.

Monitoring and assessment methodology of direct relevance to the assessment of land-based pollutant fluxes has been developed and is applied in specific studies, training of national staff, equipment support, etc.

A global register of land-ocean river inputs (GLORI) has been prepared by International Geosphere-Biosphere Programme (IGBP)/Land-Ocean Interactions in the Coastal Zone (LOICZ) with input from GEMS/WATER experts. In addition, an expanded UNEP/WHO report is being published on river discharges to the oceans, as an output of GEMS-GLORI register. The register is planned to be expanded during 1996 and 1997.

In support of the development of the Global Programme of Action, a GEMS/WATER Expert Consultation on the Assessment of Land-Based Sources of Pollution was held (June 1995) which discussed the possible activities of the GEMS/WATER programme contributing to GPA, including:

- A dynamic assessment of nutrient export to the oceans from land-based sources;
- Addressing inadequacies of current GEMS/WATER data for trace elements and persistent organic pollutants for the calculation of annual fluxes;
- Linking water quality levels and loads with physical geography and socio-economic characteristics ("typologies");
- A possible network of pilot studies on riverine micropollutants;
- Historical records of water quality; and
- Further development of GLORI.

As a follow up to the consultation, a comprehensive global study on the occurrence of persistent organic pollutants (POPs) is currently being undertaken to provide the starting point for a global data base on POPs related to river basins and other freshwaters.

Institutional focal points:

- Ms. Isabelle Vanderbeck, Programme Officer, Water Branch, UNEP, P.O. Box 30552, Nairobi, Kenya; Telephone: (254 2) 623243; Fax: (254 2) 624249.
- Mr. Richard Helmer, Chief, Urban Environmental Health, Division of Operational Support in Environmental Health, World Health Organization - WHO, Av. Appia 20, CH-1211 Geneva 27, Switzerland; Telephone: (41 22) 791 21 11; Fax: (41 22) 791 07 46.

GLOBAL INVESTIGATION OF POLLUTION IN THE MARINE ENVIRONMENT (GIPME) - IOC/UNEP/IMO/IAEA

GIPME is an inter-agency sponsored programme designed to provide a basis for assessment of the state of the marine environment and the design of regulatory actions for preventing pollution focusing on marine regions of interest to sponsoring agencies (IOC, UNEP and IMO). The Programme comprises five elements, all relating closely to the Global Programme of Action:

(a) Contaminant measurement and biological effects methodology (development, testing, intercalibration and preparation of manuals);

(b) Baseline measurements and mass balance assessment (evaluation of the extent of anthropogenic inputs to the marine environment);

(c) Contamination assessment (evaluation of the extent of change resulting from anthropogenic activities);

(d) Pollution assessment (evaluation of the nature and extent of damage, threats and compromise of marine resources and amenities); and

(e) Regulatory action (selection and implementation of regulatory measures, compliance monitoring and monitoring of effectiveness of measures).

GIPME is implemented through the activities of three international group of experts: Methods, Standards and Intercalibration (GEMSI); Effects of Pollutants (GEEP); and Standards and Reference Materials (GESREM). The activities of these groups are overseen and guided by a Bureau of Officers and representatives of the sponsoring agencies during periods between periodic intergovernmental review meetings.

GIPME activities relevant to support for the Global Programme of Action:

- Preparation of reference methods manuals. Manuals are issued by UNEP, through IAEA/MEL (see annex IV). GEMSI also developed the Methods Protocol for the International Joint Global Flux Studies (JGOFS) Programme;

- Open-ocean baseline study. Measurements of the presence and distribution of chemical contaminants in the entire Atlantic Ocean, to characterize the chemical composition of major water masses, have been obtained on two major international cruises. The final cruise will take place in May 1996. The study objectives are to assess the degree to which the deep ocean has been modified by introduction of contaminants from anthropogenic activities and to provide basic oceanic baseline data for mass-balance construction;

- Training workshops. A series of regional training workshops have been conducted to provide expertise regarding the measurement of oceanographic variables, contaminants and biological effects and data interpretation;

- Health of the Oceans (HOTO) Module of GOOS. GIPME experts have provided the basis for the design of this module of GOOS. Initiatives are underway to identify a suitable region for the implementation of HOTO from among seven regions having clearly-defined management concerns and objectives. The HOTO Module design incorporates major components of the Global Programme of Action and it is anticipated that GIPME will serve as an implementation mechanism for the HOTO Module; and

- Scientific expert advisory services are provided to the sponsoring agencies, their respective regional programmes and major international agreements.

Institutional focal point: Mr. Gunnar Kullenberg, Executive Secretary, Intergovernmental Oceanographic Commission, UNESCO, 1 rue Miollis, 75732 Paris Cedex, France; Telephone (33 1) 456 839 83; Fax: (33 1) 405 693 16.

GLOBAL OCEAN OBSERVING SYSTEM (GOOS) - IOC/WMO/UNEP/ICSU

GOOS was developed in response to a resolution adopted by the sixteenth session of IOC Assembly and to UNCED which called upon member States to support the IOC, in cooperation with WMO and UNEP, inter alia, in the systematic collection and exchange of ocean data. The GOOS has a joint IOC/WMO/UNEP Intergovernmental Committee and a joint Advisory Committee managed by the International Council of Scientific Unions (ICSU).

GOOS is established in five modules dealing respectively with climate, health of the ocean, the coastal zone, living resources and ocean services. Each module has an expert Panel to develop the scientific design and strategy. The Climate Panel has finalized its report, the Health of the Oceans Panel has competed the design phase and the results from the other Panels are in various stages of development. GOOS will utilize existing systems to the greatest extent possible and coordinate interaction amongst the operation of its respective modules.

GOOS, as an integrated data collection, management, archival and interpretation programme, has much to contribute to the implementation of the Global Programme of Action. Its various modules will contribute measurements relevant to the evaluation of anthropogenic impacts on the marine coastal environment, including contaminant releases, sediment mobilization and physical alterations. In addition, natural environmental changes of long- and short-term variations will be monitored and recorded. Most GOOS modules focus primarily on the coastal area with the Coastal Zone Module embodying socioeconomic and demographic measurements of relevance to coastal waters. The GOOS therefore offers the potential mechanism for coordinated data acquisition, management and application necessary for the implementation and on-going evaluation of the Global Programme of Action.

Institutional focal point: Mr. Gunnar Kullenberg, Executive Secretary, Intergovernmental Oceanographic Commission, UNESCO, 1 rue Miollis, 75732 Paris cedex, France; Telephone: (33 1) 456 839 83; Fax: (33 1) 405 693 16.

GLOBAL TERRESTRIAL OBSERVING SYSTEM (GTOS) - FAO/ICSU/UNEP/UNESCO/WMO

GTOS, with its support office now being established at FAO, will be organizing the collection of many types of operational measurements and observations of terrestrial and freshwater resources and related human activities that will be essential for identifying, localizing and quantifying land-based activities impacting on ocean and coastal areas.

GTOS will focus on five key developmental issues of global concern:

- Land-use change, land degradation and the sustainability of managed ecosystems;
- Water resources management;
- Pollution and toxicity;
- Loss of biodiversity; and
- Climate change.

Joint GTOS/GOOS observation activities relevant to coastal zone are planned to be developed.

Institutional focal point: GTOS Office, Research, Extension and Training Division, Sustainable Development Department, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy; Telephone: (39-6) 522 51; Fax: (39-6) 522 557 31.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) - WMO/UNEP

INTERNATIONAL GEOSPHERE-BIOSPHERE PROGRAMME: A STUDY OF GLOBAL CHANGE (IGBP) - ICSU

Adopted as programme of the International Council of Scientific Unions (ICSU) by its General Assembly (1988) as support to the World Climate Programme and with focus on the study of interaction between chemical, physical and biological processes and changes in Earth system functioning driven by environmental and anthropogenic changes.

The IGBP is organized through eight Core Projects, the one dealing with the IGBP/LOICZ (1992) being the most germane to the Global Programme of Action. Its goal is to determine at regional and global scale the nature of the dynamic interaction between land, oceans and atmosphere, and how human actions and environmental change are affecting coastal zones and altering their main global cycles. LOICZ is involved in the investigation of anthropogenically driven coastal changes and their implications for Earth system functioning and prediction of future conditions as the basis for sustainable management of coastal space and resources.

Main Global Programme of Action-related activities of IGBP/LOICZ: assembly of global database of river discharges to coastal oceans (1994); catchment basin modelling for prediction of future discharge rates of suspended and dissolved materials under differing conditions of land-use, with focus on Amazon and western Pacific rim basins (1995); assessment of impacts of changes in river discharges, including nutrient inputs (1996); compilation of global and regional estimates of ground-water discharges, including discharges of dissolved substances (1996).

Participants in IGBP/LOICZ: more than 2,000 corresponding scientists from 130 countries.

Institutional focal point: Mr. John Pernetta, LOICZ/IGBP Core Project Manager, Netherlands Institute for Sea Research, P.O. Box 59, 1790 AB Den Burg - Texel, The Netherlands; Telephone (31) 222 269 404; Fax: (31) 222 369 430; e-mail: loicz@NIOZ.NL.

INTERNATIONAL CORAL REEF INITIATIVE (ICRI) AND GLOBAL CORAL REEF MONITORING NETWORK (GCRMN) - IOC/UNEP

GCRMN has been planned, under ICRI as a contribution to the coastal zone module of GOOS (see above) to promote research, monitoring and assessment of coral reefs and related ecosystems, to provide information for more efficient and effective management for their long-term conservation.

GCRMN objectives of particular relevance to the Global Programme of Action include:

- Design and promotion of consistent monitoring programmes, incorporating biological, physical, social, cultural and economic studies, to identify trends and changes in coral reefs and discriminate between anthropogenic, climatic and other aspects of global change;

- Assembly of assessment, monitoring and research data on coral reefs into regional databases so that status information can be made available to participating countries and for the development of predictive modes of global change; and

- Preparation of periodic reports on reef status for presentation to major international forums and participating agencies.

Institutional focal point: Mr. Ian Dight, Programme Officer, Water, UNEP, P.O. Box 30552, Nairobi, Kenya; Telephone: (254 2) 622 179; Fax: (254 2) 622 798 or 622 788.

WORLD CLIMATE PROGRAMME (including the Global Climate Observing System)

Institutional focal point: WMO

Annex II

MAJOR REGIONAL PROGRAMMES RELEVANT TO THE IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

This annex contains: a short description of major regional seas programmes, with particular reference to their activities relevant to the Global Programme of Action; the list of countries participating in the programmes; the legislative authorities underlying the programmes; and the organizations/structures coordinating and acting as the secretariats of the programmes.

Most of the described programmes are operated, or are planned to be operated, in the framework of legally binding regional treaties and under the authority of the respective contracting parties.

In addition to the described programmes, there is a large number of regional (bi- or multi-lateral) programmes focusing on protection of river basins and management of their resources. Although many of these programmes are highly relevant to the successful implementation of the Global Programme of Action, no attempt has been made to describe them in the present annex.

1. ACTION PLANS OF UNEP'S REGIONAL SEAS PROGRAMME

(a) Action Plan for the Protection of the Mediterranean Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP)

Action Plan adopted by the Intergovernmental Meeting on the Protection of the Mediterranean (1975[19], rev. 1995).

Main activities related to the Global Programme of Action: monitoring of the sources, levels and effects of pollutants (1975); survey of land-based sources of pollution (1976); regional programme of pollution control from land-based sources (1985); thirteen specific regional measures to control pollution from land-based sources (1985-1993); integrated coastal area management programme (1989); priority activities defined (1995); updated survey of land-based sources of pollution (1996); revised regional programme for control of pollution from land-based sources, envisaging development of national action plans, under preparation, adoption expected in 1997.

Participants: 20 States (Albania, Algeria, Bosnia-Hercegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey) and the European Union.

Legislative authority: operated under the authority of UNEP's Executive Director on the basis of decisions of UNEP Governing Council and the meetings of Contracting Parties to the (Barcelona) Convention for the Protection of the Mediterranean Sea against Pollution (1976, 1978, amendments 1995). Protocols associated with the Convention:

- Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft (1976, 1978, amendments 1995);
- Protocol Concerning Cooperation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency (1976, 1978);

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[19] Years in brackets indicate the year when the action plans, the corresponding legal instruments and the specific regional programmes, measures and activities were adopted or started; years underlined indicate the year when the legal instruments entered into force.

- Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources (1980, 1983, amended in 1996);
- Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (1995), superseding the Protocol Concerning Mediterranean Specially Protected Areas (1982, 1986);
- Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (1994);
- Protocol on the Prevention of Pollution of the Mediterranean Sea resulting from the Transboundary Movements of Hazardous Wastes and their Disposal negotiated; adoption expected in September 1996.

Secretariat: Coordinating Unit for the Mediterranean Action Plan, UNEP, Vas. Konstantinou 48, P.O. Box 18019, 11610 Athens, Greece; Telephone: (30 1) 725 3190/5; Fax: (30 1) 725 3196/7; e-mail: unepmedu@compulink.gr.

(b) Action Plan for the Caribbean Environment Programme (CEP)

Action Plan adopted by the Intergovernmental Meeting on the Action Plan for the Caribbean Environment Programme.

Main activities related to the Global Programme of Action: review of priorities for marine pollution monitoring, research, control and abatement (1989); programme for marine pollution assessment and control (CEPPOL), including development of pollution control measures and environmental quality criteria (1990); country surveys of land-based activities, including point-source inventories (1991); regional review of issues related to land-based sources of marine pollution (1992 and 1994); assessment of pollution load from non-point sources (1996); planning and management of heavily contaminated bays and coastal areas (1996); assessment of domestic, industrial and agricultural land-based sources of pollution with focus on sewage and agricultural non-point sources (1996); pilot studies on pesticide assessment and control (1996); investigation on causes and effects of eutrophication (1996); survey on the environmental impact of the tourism industry (1996) under the Specialy protected Areas and Wildlife Programme (SPAW); establishment of a data management system on coastal and marine resources (1996).

Participants: 28 States (Antigua and Barbuda, Bahamas, Barbados, Belize, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, France, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Netherlands, Nicaragua, Panama, St. Kitts and Nevis, St. Lucia, St. Vincent and Grenadines, Suriname, Trinidad and Tobago, United Kingdom, United States of America, Venezuela), the European Union and the Caribbean territories of the Netherlands and the United Kingdom.

Legislative authority: operated under the authority of UNEP's Executive Director on the basis of decisions of UNEP Governing Council and the meetings of Contracting Parties to the (Cartagena) Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (1983, 1986). Protocols associated with the Convention:

- Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region (1983, 1986);
- Protocol Concerning Specially Protected Areas and Wildlife (1990);
- Protocol Concerning Land-Based Sources of Pollution in the Wider Caribbean Region (being negotiated, adoption expected in 1997).

Secretariat: Regional Coordinating Unit for the Caribbean Environment Programme, UNEP, 14-20 Port Royal Street, Kingston, Jamaica; Telephone: (809 92) 292 67/8/9; Fax: (809 92) 292 92; e-mail: unienet:unx040 and econet:uneprcujy.

(c) Action Plan for the Protection and Development of the Marine and Coastal Areas of the West and Central African Region (WACAF)

Action Plan adopted by the Conference of Plenipotentiaries on Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (1981).

Main activities related to the Global Programme of Action: monitoring of pollutant levels in coastal waters and related national capacity building (1991); country surveys of land-based sources of pollutants (1993); capacity building for integrated coastal areas and related watershed management planning (1995).

Participants: 21 States (Angola, Benin, Cameroon, Cape-Verde, Congo, Cote d'Ivoire, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Namibia, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Togo, Zaire).

Legislative authority: operated under the authority of UNEP's Executive Director on the basis of decisions of UNEP Governing Council and the meetings of Contracting Parties to the (Abidjan) Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (1981, 1984). Protocols associated with the Convention:

- Protocol Concerning Cooperation in Combating Pollution in Cases of Emergency in West and Central African Region (1981, 1984).

Secretariat (on an interim basis): Water, UNEP, P.O. Box 30552, Nairobi, Kenya; Telephone: (254 2) 621 234; Fax: (254 2) 622 788 and 622 798.

(d) Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (EAF)

Action Plan adopted by the Conference of Plenipotentiaries on the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (1985).

Main activities related to the Global Programme of Action: country assessments of pollution load from land-based activities (1993); review of land-based activities affecting the coastal waters of the region (1996).

Participants: Nine States (Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, United Republic of Tanzania), the European Union and the Eastern African territories of France.

Legislative authority: operated under the authority of UNEP's Executive Director on the basis of decisions of UNEP Governing Council and the meetings of Contracting Parties to the (Nairobi) Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (1985). Protocols associated with the Convention:

- Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region (1985);
- Protocol Concerning Cooperation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region (1985).

Secretariat (on an interim basis): Water, UNEP, P.O. Box 30552, Nairobi, Kenya; Telephone: (254 2) 621 234; Fax: (254 2) 622 788 and 622 798.

(e) Action Plan for the Protection and Development of the Marine and Coastal Areas of the East Asian Region (EAS)

Action Plan adopted by the Intergovernmental Meeting on the Protection and Development of the Marine and Coastal Areas of the East Asian Region (1981, rev. 1994).

Main activities related to the Global Programme of Action: regional overview on pollution from land-based activities (1980) and recommendations for control measures (1989); regional programme of action to control negative effects of land-based activities (1994); regional project on integrated management of coastal and related water-basin resources (1995), regional programme of action on land-based activities affecting coastal and marine areas (1995).

Participants: 10 States (Australia, Cambodia, China, Indonesia, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, Vietnam).

Legislative authority: operated under the authority of UNEP's Executive Director on the basis of decisions of UNEP Governing Council and the intergovernmental meetings of the Coordinating Body on the Seas of East Asia (COBSEA).

Secretariat: Regional Coordinating Unit for the East Asian Seas Action Plan, UNEP, 10th Floor, United Nations Building, Rajdamnern Avenue, Bangkok 10200, Thailand; Telephone (66 2) 281 2428 and 267 8007; Fax: (66 2) 267 8008.

(f) Action Plan for the North-West Pacific (NOWPAC)

Action Plan adopted by the Intergovernmental Meeting on the North-West Pacific Action Plan (1994).

Main activities relating to the Global Programme of Action: review of national and regional coastal and marine problems (1993); control of discharges from land-based activities (planned for 1997).

Participants: Five States (China, Democratic People's Republic of Korea, Japan, Republic of Korea, Russian Federation).

Legislative authority: operated under the authority of UNEP's Executive Director on the basis of decisions of UNEP Governing Council and the intergovernmental meetings of the countries participating in the Action Plan.

Secretariat (on an interim basis): Water, UNEP, P.O. Box 30552, Nairobi, Kenya; Telephone: (254 2) 621 234; Fax: (254 2) 622 788 and 622 798.

(g) Action Plan for the South-West Atlantic

Negotiated under UNEP's auspices between the representatives of Argentina, Brazil and Uruguay.

2. ACTION PLANS EVOLVED IN THE FRAMEWORK OF AND ASSOCIATED WITH UNEP'S REGIONAL SEAS PROGRAMME

(a) Action Plan for the Protection of the Marine Environment and the Coastal Areas of Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (KAP)

Action Plan adopted by the Kuwait Regional Conference of Plenipotentiaries on the Protection and Development of the Marine Environment and the Coastal Areas (1978).

Main activities related to the Global Programme of Action: inventory of land-based sources of solid, liquid and air pollution (1985-1987); review of Iranian watersheds contributing to pollution from land-based activities (1995); review of the provisions of the regional land-based sources protocol in the light of the Global Programme of Action and identification of the required modifications (1995).

Participants: Eight States (Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates).

Legislative authority: operated under the authority of the Executive Secretary of the Regional Organization for the Protection of the Marine Environment (ROPME) on the basis of the decisions of ROPME Council consisting of representatives of the Contracting Parties to the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution (1978, 1979). Protocols associated with the Convention:

- Protocol Concerning Regional Cooperation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency (1978, 1979);

- Protocol Concerning Marine Pollution resulting from Exploration and Exploitation of the Continental Shelf (1989, 1990);

- Protocol for the Protection of the Marine Environment against Pollution from Land-Based Sources (1990, 1993).

Secretariat: Regional Organization for the Protection of the Marine Environment (ROPME), P.O. Box 26388, 1324 Safat, State of Kuwait; Telephone: (965) 531 2140/3; Fax: (965) 5324172 and 531 2144.

(b) Action Plan for the Protection of the Marine Environment and Coastal Areas of the South-East Pacific (SEPCF)

Action Plan adopted by the Conference of Plenipotentiaries of Chile, Colombia, Ecuador, Panama and Peru (1981, rev. 1986).

Main activities related to Global Programme of Action: survey and monitoring of sources, levels and effects of marine pollution, and associated training programmes (1983); contingency plan for combating marine pollution; review of the state of the marine environment; inventory of land-based sources of pollution (1989-1995); development of a network of marine and costal protected areas.

Participants: Nine States (Chile, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua, Panama, Peru).

Legislative authority: operated under the authority of the Secretary General of the Permanent Commission for the South Pacific (CPPS) on the basis of decision of the meetings of the Contracting Parties to the (Lima) Convention for the Protection of the Marine Environment and Coastal Areas of the South-East Pacific (1981, 1986). Protocols associated with the Convention:

- Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Hydrocarbons or other Harmful Substances in Cases of Emergency (1981, 1986);

- Supplementary Protocol to the Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Hydrocarbons or Other Harmful Substances (1983, 1987);

- Protocol for the Protection of the South-East Pacific against Pollution from Land-based Sources (1983, 1986);
- Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific (1989, 1994);
- Protocol for the Protection of the South-East Pacific against Radioactive Contamination (1989, 1995);
- Protocols on (i) Environmental Impact Assessment in Marine and Coastal Waters and (ii) Prohibition of Transboundary Movements of Hazardous Wastes and their Elimination (being negotiated).

Secretariat: Comision Permanente del Pacifico Sur (CPPS), Juan de la Fuente 743, San Antonio Miraflores, Apartado Postal No. 18-0046, Lima, Peru; Telephone: (5114) 447 247 and 464 308; Fax: (5114) 473 158.

(c) Action Plan for the Conservation of the Marine Environment and Coastal Areas of the Red Sea and Gulf of Aden (RED)

Action Plan adopted by the Regional Conference of Plenipotentiaries on the Conservation of the Marine Environment and Coastal Areas in the Red Sea and Gulf of Aden (1982, rev. 1985).

Main activities related: assessment of pollution load to the marine environment; assessment of sewage discharge from major cities; assessment of industrial wastes in the Northern Red Sea.

Participants: Seven States (Egypt, Jordan, Palestine, Saudi Arabia, Somalia, Sudan, Yemen).

Legislative authority: operated under the authority of the Director General of Arab League Educational, Cultural and Scientific Organization (ALECSO) on the basis of decisions of the ALECSO General Conference and the meetings of the Contracting Parties to the (Jeddah) Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment (1982, 1985). Protocols associated with the Convention:

- Protocol Concerning Regional cooperation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency (1982, 1985).

Secretariat: Red Sea and Gulf of Aden Environment Programme (PERSGA), P.O. Box 1358, Jeddah 21431, Saudi Arabia: Telephone: (9662) 651 4472 and 651 9868; Fax: (9662) 651 1424 and 651 9868.

(d) South Pacific Regional Environment Programme (SPREP)

Action Plan adopted by the Conference on the Human Environment in the South Pacific (1982, rev. 1991 and 1996).

Main activities related to the Global Programme of Action: marine pollution monitoring and research (1988); strategy for the protection of the marine environment (1993); pollution prevention, waste minimization and management programme (1994); integrated coastal zone management programmes (1994); regional inventory of sources of land-based pollution (1993); national environment management strategies (1992-1995); public awareness campaigns and training (1985-1996); assistance in national capacity building (1990-1996).

Participants: 19 States (Australia, Cook Islands, Federated States of Micronesia, Fiji, France, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, United Kingdom, United States of America, Vanuatu, Western Samoa) and the South Pacific territories and dependencies of France (French Polynesia, New Caledonia, Wallis and Futuna), New Zealand (Tokelau), United Kingdom (Pitcairn) and United States of America (American Samoa, Guam, Northern Mariana Islands).

Legislative authority: operated under the authority of the Contracting Parties to the (Noumea) Convention for the Protection of Natural Resources and Environment of the South Pacific Region (1986, 1990). Legal instruments associated with the Convention:

- Convention on Conservation of Nature in the South Pacific (1976, 1990);
- Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (1995);
- Protocol Concerning Cooperation in Combating Pollution Emergencies in the South Pacific Region (1986, 1990);
- Protocol for the Prevention of Pollution of the South Pacific Region by Dumping (1986, 1990).

Secretariat: South Pacific Regional Environment Programme (SPREP), P.O. Box 240, Apia, Western Samoa; Telephone: (685) 21 929; Fax: (685) 20 231; e-mail: sprep@pactok.peg.apc.org.

(e) Black Sea Environmental Programme (BSEP)

Programme adopted by representatives of the six coastal states of the Black Sea (1993) in response to the Ministerial Declaration on the Protection of the Black Sea (1993).

Main activities related to the Global Programme of Action: region-wide rapid assessment of land-based sources of pollution (1994); pilot studies on levels and effects of pollutants (1995); pilot studies on integrated coastal zone management (1995); environmental priority studies (1995); regional review of integrated coastal zone management (1996); action plan for the Black Sea (1996).

Participants: Six States (Bulgaria, Georgia, Romania, Russian Federation, Turkey, Ukraine).

Legislative authority: operated under the authority of the Administrator of UNDP, acting on behalf of the implementing agencies of the Global Environment Facility (UNEP, UNDP and the World Bank), on the basis of the (Odessa) Ministerial Declaration on the Protection of the Black Sea (1993) within the general framework of the (Bucharest) Convention on the Protection of the Black Sea against Pollution (1992, 1994). Protocols associated with the Convention:

- Protocol on Protection of the Black Sea Marine Environment against Pollution from Land-Based Sources (1992, 1994);
- Protocol on Cooperation in combating Pollution of the Black Sea Marine Environment by Oil and Other Harmful Substances in Emergency Situations (1992, 1994);
- Protocol on the Protection of the Black Sea Marine Environment against Pollution by Dumping (1992).

Secretariat: Black Sea Environmental Programme Coordinating Unit, Dolmabahce Sarayi, II. Harekat Kosku, 80680 Besiklas, Istanbul, Turkey; Telephone: (90 212) 227 99 27/9; Fax: (90 212) 227 99 33; e-mail: internet gef@servis2.net.tr.

(f) Action Plan for the Protection and Management of the South Asian Seas Region (SAS)

Action Plan adopted by the Meeting of Plenipotentiaries on the Action Plan for the Protection and Management of the South Asian Seas Region (1995).

Main activities related to the Global Programme of Action: review of national and regional problems (1983); pilot projects on integrated coastal area management (planned to start in 1996); regional programme for control of land-based activities (planned to be adopted in 1997).

Participants: Five States (Bangladesh, India, Maldives, Pakistan, Sri Lanka).

Legislative authority: operated under the authority of the Director of the South Asia Cooperative Environment Programme on the basis of decisions of plenipotentiary meetings representing the participating countries.

Secretariat: South Asia Cooperative Environment Programme (SACEP), 10, Anderson Road, Colombo 5, Sri Lanka; Telephone: (94 1) 589 376, 589 787 and 596 442; Fax: (94 1) 589 369.

3.PROGRAMME OF THE BALTIC MARINE ENVIRONMENT PROTECTION COMMISSION

Baltic Sea Joint Comprehensive Environmental Action Programme adopted by the Diplomatic Conference of Ministers of the Environment (1992).

Main activities related to the Global Programme of Action within the Joint Comprehensive Action Programme ((a) below) and other programmes of the Helsinki Commission ((b)-(e) below):

(a) Planning and coordinating pollution control measures (from point and non-point sources), conservation of sensitive areas and resources, and associated investments in the Baltic Sea drainage basin, including related legislation, policy and education;

(b) Joint monitoring programmes, including different sectors of the marine environment, discharges and emissions from urban areas, industry, agriculture and other sources;

(c) Compiling and evaluating data, including those on pollution load, and evaluating them at regular intervals to assess the environmental conditions;

(d) Promulgating measures against pollution from maritime sources, including those from operational discharges from ships and off-shore platforms, and from disposal of ships' wastes through port facilities;

(e) Elaborating rules and guidelines for cooperation in combatting spillage of oil and other harmful substances.

Parties to the Convention: Nine States (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russian Federation, Sweden) and the European Union.

Legislative authority: operated under the authority of the Executive Secretary of the Baltic Marine Environment Protection Commission based on unanimous decisions, recommendations and ministerial declarations of the Contracting Parties to the (Helsinki) Convention on the Protection of the Marine Environment of the Baltic Sea Area (1974, 1980; revised 1992, 1995).

The Programme is coordinated by the HELCOM Programme Implementation Task Force which is a joint endeavor of the Baltic Sea States (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russian Federation and Sweden), other countries of the catchment area (Belarus, Czech Republic, Norway, Slovak Republic and Ukraine), the Commission of the European

Communities, four international financial institutions (European Investment Bank, European Bank for Reconstruction and Development, Nordic Investment Bank and the World Bank), and the International Baltic Sea Fisheries Commission.

Secretariat: Baltic Marine Environment Protection Commission (HELCOM), Katajanokalaituri 6 B, 00160 Helsinki, Finland; Telephone: (358 0) 62 202 20; Fax: (358 0) 62 202 239.

4. PROGRAMME OF THE OSLO AND PARIS COMMISSIONS FOR THE PREVENTION OF MARINE POLLUTION

The Action Plan adopted in 1992 by the Ministerial Meeting of the Oslo and Paris Commissions is reviewed and updated by the Commissions on an annual basis. The last revision took place in 1995.

Main activities related to the Global Programme of Action:

(a) Identification and prioritization of hazardous substances (especially organohalogen substances) and of point and diffuse sources of such substances which are not yet covered by programmes and measures;

(b) Development of agreed description of best available techniques (BAT) and/or best environmental practices (BEP) for particular point and diffuse sources;

(c) Adoption of programmes and measures, including the application of BAT and BEP aimed at reducing or eliminating inputs of hazardous substances and radioactive substances to the marine environment from such sources;

(d) Adoption of measures to combat eutrophication, with particular attention to the agricultural sector;

(e) Establishment and application of mechanisms to assess compliance with agreed programmes and measures;

(f) Development of a strategy for the protection of species and habitats in coastal and offshore areas;

(g) Development and implementation of programmes of collaborative monitoring and assessment-related research and collection of quantitative information from these and other programmes; and

(h) Establishment and publication, at regular intervals, of joint assessments of the quality status of marine environment and of its development, including both an evaluation of the effectiveness of measures taken and planned for protection of the marine environment and identification of priorities for action.

Parties to the Oslo and Paris Conventions: Belgium, Denmark, European Union (Paris Convention only), Finland (Oslo Convention only), France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom.

Legislative authority: The commissions as established respectively under the Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircrafts (1972) and the Paris Convention for the Prevention of Marine Pollution from Land-Based Sources (1974). Both Conventions will be superseded by the OSPAR Convention for the Protection of the Marine Environment for the North-East Atlantic (1992) once it enters into force. All Contracting Parties to the Oslo and Paris Conventions, Luxembourg and Switzerland will be Contracting Parties to the OSPAR Convention.

Secretariat: Oslo and Paris Commissions, New Court, 48 Carey Street, LONDON WC2A 2JQ, United Kingdom; Telephone: (44 171) 242 99 27; Fax: (44 171) 831 74 27 and 430 2999; e-mail: Compuserve 100517,1046 and Internet 100517,1046@compuserve.com.

5. ENVIRONMENTAL PROGRAMME FOR THE MEDITERRANEAN (EPM)

A three-phase programme of the European Investment Bank (EIB) and the World Bank, launched in 1988, to address environmental policy, institutional and investment needs of Mediterranean countries.

Phase I consisted of wide-ranging studies, covering scientific, technical, economic and financial issues in order to define appropriate instruments and priority areas for intervention. During phase II investment projects and institution-strengthening activities are being identified and prepared, based on the priority areas identified in phase I. Phase III focuses on implementation of a broad array of regional and country-specific investment projects and policy measures.

Secretariat: The World Bank

6. MEDITERRANEAN ENVIRONMENTAL TECHNICAL ASSISTANCE PROGRAMME (METAP)

Programme initiated by the Commission of the European Community, European Investment Bank, UNDP and the World Bank (1990) as the major component of the second phase of the EPM (see above). In addition, METAP enjoys the support of several bilateral donors (e.g., Germany, Switzerland, Italy, Monaco).

Main activities related to the Global Programme of Action are addressing environmental policy, institutional and investment needs at the regional, national and local levels, with focus on four priority areas: solid and hazardous waste management, integrated water resources management, coastal zone management, and marine pollution control. At the national level support is provided to: project identification; strategic planning, including preparation of national environmental action plans (NEAPs); policy analysis and priority setting; and institutional strengthening and capacity building. Regional activities include development and support to networks of managers of protected areas (MEDPAN), water agency staff and managers (MEDWAN), mayors of secondary cities (MEDICITIES), and environmental agency policy-makers (MEDNEA).

Secretariat: The World Bank METAP Implementation Unit, 1818 H Street, N.W., Washington, D.C. 20433, USA.

Annex III

UNEP'S SUBSTANTIVE INPUT INTO THE IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

A major substantive input into the implementation of the Global Programme of Action will be forthcoming through UNEP's own programme and support units. The most pertinent of these units, and their potential contributions to the implementation of the Global Programme of Action, are described below.

1. The PROGRAMME DIVISION of UNEP is responsible for overall programme direction and delivery in the following four areas:

1.1 Natural Resources Subprogramme implemented through:

- Water Unit, combining the functions of the Oceans and Coastal Areas Programme Activity Centre (OCA/PAC)(including its Regional Coordinating Units) and the Freshwater Unit;
- Land Unit, comprising the Dryland Ecosystems and Desertification Control Programme Activity Centre (DE/DC-PAC);
- Biodiversity Unit; and
- Atmosphere Unit.

Contribution of the Subprogramme to the implementation of the Global Programme of Action:

In addition to the direct contribution from the staff of the Global Programme of Action Coordination Office, additional contribution from the Water Unit will be provided, on a part-time basis, by all professionals of the Unit, as well as by the professionals of the associated regional coordinating units for individual regional seas programmes, in the following main fields:

(a) Assistance to Governments through the Regional Seas Programme[20] and the international river basin agreements:

- Revitalization of the Regional Seas Programme through review, revision and formulation, as appropriate, of existing action plans and conventions to incorporate river basin activities and national and international agreements for the implementation of action programmes at national and regional levels;
- Review the status of activities dealing with the protection of the marine environment from land-based activities, including identification of priorities and formulation of recommendations, throughout UNEP's Regional Seas Programme and international river basin agreements, and in cooperation with other regional seas programmes;

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[20] For details on the Regional Seas Programme see annex II.

- Assistance to Governments in the review or development, as appropriate, of national and regional strategic programmes on protection of the marine environment from land-based activities;

(b) Freshwater and marine assessments:

- In cooperation with relevant UNEP's programmes/units and other agencies and parties, assistance to Governments in: (i) regional and global assessment needs; (ii) capacity-building requirements; and (iii) global database needs, in regard to identification or evaluation of the main sources of pollution entering the oceans from the drainage area from point and non-point sources, including discharges transported by rivers and pollutants transported by the atmosphere;

- Collaboration in preparation of state of the environment reports for other regions, when necessary, including the Arctic and Antarctic regions;

(c) Integrated coastal area and river basin management:

- Pilot projects in integrated coastal zone and river basin management, including: (i) assessment and diagnostic activities; (ii) planning and strategy development; and (iii) implementation of action plans;

- Assistance to Governments in the development of technical, legal and socio-economic tools, methodologies and guidelines for integrated management and use of freshwater resources;

(d) International Coral Reef Initiative (ICRI)21/:

- Assessment of results from six regional workshops (during 1995/1996) to identify priority issues and actions for the protection and management of coral reefs and associated ecosystems, and assistance in developing regional strategies for their implementation as they relate to the Global Programme of Action;

- Support to the establishment of the Global Coral Reef Monitoring Network, through assistance in: (i) establishing a network of interacting agencies, institutions and people involved in the monitoring of coral reefs; and (ii) designing and promoting comprehensive monitoring and assessment programmes to identify trends and changes in coral reefs;

(e) Regional protocols and programmes on protected areas and marine biodiversity:

- Support to implementation of specific regional programmes and systems of marine and coastal protected areas in several regions, e.g., the Mediterranean, Caribbean, South-East Pacific and Eastern African regions;

(f) Small Island Developing States (SIDS):

21/ For description of the ICRI see annex I.

- Assistance to Governments, in cooperation with other United Nations programmes/units and relevant agencies, in developing and implementing sustainable tourism practices;

- Implementation of pilot project(s) on the integrated management of island ecosystems;

(g) Global Plan of Action for the Conservation, Management and Utilization of Marine Mammals:

- Support to coordination and implementation of regional programmes and management recovery plans on endangered and threatened aquatic mammals and their habitat;

The Dryland Ecosystems and Desertification Control Programme Activity Centre promotes the development and implementation of national action plans and programmes to control desertification. These plans and programmes are highly relevant for the management of watersheds and thus will contribute to the implementation of the Global Programme of Action.

1.2 Sustainable Production and Consumption Subprogramme implemented through:

- Industry and Environment Programme Activity Centre (IE/PAC).

Contribution of the Subprogramme to the implementation of the Global Programme of Action:

Assistance in the following areas related to individual land-based sources in the field of environmentally sound technology relevant to urban and water management would be available:

- Information on cleaner and safer technologies and corresponding world activities through the International Cleaner Production Information Clearing-house (ICPIC) and the OzonAction Information Clearing-house (OAIC);

- Assistance in environmental technology assessment;

- Information and assistance on environmental management in various industrial sectors (i.e., mining, tanneries, textile, pulp and paper, etc.);

- Information and assistance concerning industrial accidents sin port areas;

- Information and assistance concerning environmental management in the tourism sector; and

- Capacity-building and training activities, including "train the trainers" and publication of training materials, in the subjects listed above.

1.3 Human Health and Well-being Subprogramme implemented through:

- International Environmental Technology Centre (IETC); and

- International Register of Potentially Toxic Chemicals (IRPTC).

Contribution of the Subprogramme to the implementation of the Global Programme of Action:

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The Subprogramme's general contribution would be in the fields of sustainable management of urban settlements; management of pollution of waste; environmental health in relationship to growing urbanization; conflict resolution in relationship to transboundary natural resources; rapid response to environmental disasters; and protection of Arctic regions.

Assistance to Governments in the following areas would be available from IETCs:

- Assessment of environmentally sound technologies (EST) related to pollution arising from land-based activities; IETC will be concerned with both provision of knowledge about these technologies and their transfer;
- Analysis and development of options, priorities and tools to address environmental concerns related to the use of ESTs; and
- Capacity-building of countries to address their environmentally sound technology concerns through advisory services, training, public awareness and provision of technical information and data.

The main contribution of IRPTC/PAC would be through activities aimed at implementing Decision 18/32 of UNEP's Governing Council on persistent organic pollutants (POPs), and through actions coordinated with other international initiatives on POPs. These are to a large extent carried out jointly with other international organizations in the framework of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), with government agencies and the Intergovernmental Forum on Chemical Safety (IFCS). An Ad Hoc Working Group on POPs oversees and develops the plans for the process, and has assigned UNEP the task of ensuring coordination between the different activities. Contributions resulting from these activities will include:

- Information and data for sound management of chemical risks, including information on existing regulatory controls;
- Information and assessment of risks from potentially toxic chemicals to human health and the environment, including on their chemistry, toxicology, origins, releases, transport and depositions;
- Examination of sources, risks and benefits relevant to production and use of POPs, and identification and evaluation of possible substitutes;
- Assessment of response strategies, policies and mechanisms for reducing releases and losses of POPs; and
- Recommendations from IFCS on international action on POPs.

1.4 Globalization Subprogramme implemented through:

- Environmental Law and Institutions Programme Activity Centre (ELI/PAC);
- Environmental Economics Unit; and
- Trade Unit.

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Contribution of the Subprogramme to the implementation of the Global Programme of Action:

ELI/PAC would assist countries, at their request, in the development of national legislation and institutions for the implementation of the Global Programme of Action, including:

- Providing assistance to Governments in reviewing national legislation and institutional arrangements; drafting framework or sectoral legislation or regulations to implement the Global Programme of Action; providing legal advice or comments on draft legislation prepared by Governments; and advising on institutional arrangements necessary for the implementation of the Global Programme of Action;
- Development of training and education programmes for Government officials in the areas of concern addressed by the Global Programme of Action; and
- Information on environmental law, including international environmental instruments, through ELI/PAC's Computerized Environmental Law Information Base (CELIB).

The Environment Economics Unit could provide the following assistance to countries, at their request, subject to availability of funds:

- Assistance for strengthening and building regional, subregional and national capacities in the area of environmental impact assessment, aided by the "EIA Good Practice Guide" and the "EIA Training Resource Manual" prepared as generic documents to be used under different socio-cultural and economic conditions;
- Advice and information on the identification and development of economic instruments as possible solutions of identified problems related to land-based activities; and
- Advice and information on different valuation methodologies for non-market goods and services, and methodologies best suited for different kinds of resources and limitations, and constraints of using different methodologies.

2. The ENVIRONMENTAL INFORMATION AND ASSESSMENT DIVISION is responsible for the generation and assembling of environmental information to support UNEP's policy development; the promotion of targeted scientific research in critical environmental areas; and, the creation and support of networks to make environmental information accessible to the world community. The Division coordinates the environmental assessment functions of UNEP and is specifically responsible for the following programme elements:

(a) Information for decision-making;

(b) Targeted scientific research;

(c) Environmental assessment; and

(d) Environmental information services.

Contribution of the Division to the implementation of the Global Programme of Action:

The Division would be ready to coordinate and contribute to the preparation of regional reviews, and on the basis of these, a global review, assessing, on the basis of accumulated information, land-based sources and activities affecting the quality and uses of marine, coastal and associated freshwater environment, including identification of "hot spots" and impacts of land-based activities requiring priority actions to address them. The Division would directly contribute to these reviews by the critical analysis of available data and information, particularly those related to freshwater resources and their contribution to marine and coastal degradation.

The Division would also contribute to the Global Programme of Action by:

- Providing data on river discharges of nutrients, major ions and suspended solids available in the GEMS/GLORI database jointly operated by IGBP/LOICZ and the UNEP/WHO GEMS water programme; and

- Preparation of a preliminary global study on POPs conducted within the framework of the UNEP/WHO GEMS/Water programme.

UNEP's new state of environment report, the Global Environment Outlook (GEO), is engaging about 20 collaborating centres of excellence to contribute to the integrated assessment and modelling components of GEO. Enlisting such institutions in the context of the Global Programme of Action will broaden the analytical base and help make the Global Programme of Action more participatory.

UNEP's Environment and Natural Resources Information Networking programme component can help improve access to data and information relevant to Global Programme of Action, such as: land cover, land use, hydrography and water quality. Many of the subregional and national institutions participating in the programme work within a river basin mandate (e.g., Mekong, Zambezi) and would, therefore, be predisposed to participate in the Global Programme of Action under UNEP's guidance.

Subject to availability of external financial resources, the Division would be prepared to implement, in collaboration with FAO, UNESCO, WHO and other interested parties, a long-term programme on assessment of the status, trends and sustainable use of freshwater resources in international river basins and promotion of environmentally sound river basin management, paying special attention to the requirements of the Global Programme of Action.

Assistance would be also available in the form of advisory services about computer tools which could be used in monitoring and reporting on the progress of the implementation of the Global Programme of Action.

In all the activities described above, the initial role of UNEP would be to define a common working frame, and mainly to define standards for data and information (or meta data). In cooperation with the Global Programme of Action Coordination Office, and in collaboration with producers of data and information (e.g., United Nations agencies, secretariats of regional seas programmes) standards for archiving and dissemination of meta-data would be defined. Such standards would cover meta-data for: georeferenced data sets, experts, institutions, methods, techniques and technologies, etc. Meta-data would be mostly in electronic form, facilitating their distribution through UNEP's data and information delivery system.

3. The POLICY AND EXTERNAL RELATIONS DIVISION is responsible for: the policy development of UNEP; external relations with Governments and United Nations organizations; public awareness, including library; and, resource mobilization. The clearing-house functions of the Division are assumed by the Resource Mobilization Unit.

Contribution of the Division to the implementation of the Global Programme of Action:

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Based on decisions of the tenth session of UNEP's Governing Council (May 1982), a Clearing-house Unit was established within UNEP on an experimental basis, and since 1987 on a permanent basis, to facilitate the flow of additional resources to developing countries as a brokerage system. At Present, UNEP's clearing-house functions are assumed by the Resource Mobilization Unit which acts as a mediator between developing countries wishing to formulate programmes and projects and donor countries and institutions willing to support them. UNEP's past experience and present expertise will be used in developing clearing-house activities needed for the Global Programme of Action, and the Resource Mobilization Unit will closely cooperate with the Global Programme of Action Coordination Office in discharging UNEP's clearing-house responsibilities within the framework of the Global Programme of Action.

4. The PROGRAMME SUPPORT SERVICES is responsible for ensuring the necessary administrative support to the programme. Specifically, it is responsible for corporate planning and accountability, fund management, preparation of UNEP's budgets and liaison with the United Nations Office at Nairobi (UNON).

Contribution of the Support Services to the implementation of the Global Programme of Action:

The Support Services will provide the GEF Coordination Office with the necessary fund management and administrative support, including recruitment and management of personnel and financial management of resources at the disposal of the Office. Similar services will be also provided to other UNEP units in connection with their work related to the implementation of the Global Programme of Action.

5. The GLOBAL ENVIRONMENT FACILITY (GEF) UNIT coordinates UNEP's GEF activities providing programme development support, services to the Scientific and Technical Advisory Panel (STAP) of the GEF, and liaison with the GEF Secretariat and the GEF Implementing Agencies (UNDP and the World Bank).

Contribution of the GEF Unit to the implementation of the Global Programme of Action:

In cooperation with UNEP's Water Unit and the organizations and structures coordinating the regional seas programmes (see annex II), the GEF Unit will initiate the development of project proposals which could be submitted for funding by GEF. The proposals would aim at helping countries in need of assistance, upon request and clearance of the relevant national GEF operational focal points, to implement their commitments in the following areas:

- Preparation of national action programmes in accordance with Section II of the Global Programme of Action;
- Strengthening and, where necessary, creating regional cooperative arrangements and joint actions supporting effective action, strategies and programmes, in accordance with the relevant provisions of Section III of the Global Programme of Action; and
- Preparation of project proposals aimed at strengthening the capacities of the Global Programme of Action clearing-house mechanism so as to enable it to fulfil the mandate entrusted to it by the Global Programme of Action.

6. Six REGIONAL OFFICES[22/] represent UNEP and ensure effective delivery of UNEP programmes within a geographic region.

Contribution of the Regional Offices to the implementation of the Global Programme of Action:

(a) The Regional Office for Europe (ROE) will contribute, in close cooperation with the respective Governments and organizations, to the implementation of the Global Programme of Action through:

- Preparation of a legal framework and institutional mechanisms for environmental cooperation in the Caspian Sea region;
- Identification of regional policy options and response measures to mitigate consequences of water-level rise in the Caspian Sea;
- Improvement of regional, subregional and national capabilities and cooperation in the protection and sustainable use of water, soil and biological resources in the Aral and Caspian Sea region;
- Preparation of a pan-European strategy on the protection of marine environment and coastal zones; and
- Preparation of analyses and reviews on various subjects pertaining to the protection of marine environment and costal areas.

Approximately $ 500,000 is earmarked in the budget of ROE for the above activities in the biennium 1996-1997. Furthermore, subject to availability of additional funds, ROE could:

- Convene a meeting of the representatives of regional marine programmes in the European region to review the possibilities for strengthening their cooperation, and workshops to consider technical aspects of the implementation of the Global Programme of Action; and
- Respond to requests from Governments of the European region for assistance in strengthening their national capabilities and mechanisms for the implementation of the Global Programme of Action.

7. UNEP is the secretariat of seven REGIONAL SEAS ACTION PLANS and four CONVENTIONS ASSOCIATED WITH THE ACTION PLANS.

Contributions of the Action Plans to the implementation of the Global Programme of Action are described in annex II.

8. UNEP administers the secretariats of the following GLOBAL CONVENTIONS:

- Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES);

[22/] Regional Offices for Africa (Nairobi), Asia and the Pacific (Bangkok), Europe (Geneva), Latin America and the Caribbean (Mexico City), North America (New York and West Asia (Bahrain).

- Convention for the Conservation of Migratory Species of Wild Animals (CMS);
- Multilateral Fund for the Implementation of the Montreal Protocol;
- Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- Convention on Biological Diversity.

UNEP-assisted contributions of the Secretariats to the implementation of the Global Programme of Action:

(a) The main goal of CITES is to promote the sustainability of trade in wildlife while offering protection to species which are threatened with extinction due to overexploitation, habitat destruction and pollution. As far as the marine environment is concerned, whale, turtle and some coral species are in the focus of CITES.

Through a number of programmes CITES assists in assessing problems related to protection of threatened species and advise on their management on a sustainable basis (e.g., coral reefs in Philippines, Strombus gigas in the Caribbean). In addition, CITES is ready to assist with advice on the development of CITES-related national legislation and with training relevant to the implementation of CITES.

Although CITES has no resources for funding activities which may be of direct relevance to the implementation of the Global Programme of Action, the activities of CITES and those planned under the Global Programme of Action are mutually supportive and contribute to the same overall goal.

At present CITES is supported by 130 Parties, including nearly all major wildlife importing and exporting countries;

(b) Regional and subregional centres are being established under the Basel Convention for training and technology transfer regarding the management of hazardous wastes and other wastes, and the minimization of their generation. These centres will serve as good sources of data and information relevant to the Global Programme of Action, as well as centres of excellence for provision of assistance in fields related to the Global Programme of Action. Technical assistance, training and capacity-building in general, will form the substantial part of the outreach activities of the regional and subregional centres. It would seem appropriate and timely that a number of the proposed activities under the Global Programme of Action be channelled through, or coordinated with, the activities of these centres.

By the preparation of technical guidelines for management and disposal of hazardous wastes, the Technical Working Group of the Convention will contribute to the guidelines planned to be developed for the implementation of the Global Programme of Action.

The experience gained in the implementation of the Convention will benefit the development of a global legal instrument for the reduction and/or elimination of emission discharges and, where appropriate, the elimination of the manufacture and use of persistent organic pollutants.

The Convention secretariat collects information from the Parties and other sources which could be of use to the Global Programme of Action. In particular, data on the generation of

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hazardous wastes are being collected. In addition, through technical assistance projects, the secretariat has accumulated information and data on a number of topics relevant to land-based activities;

(c) Under the Convention on Biological Diversity, as part of its clearing-house mechanism, National Focal Points are being set up for the purpose of information exchange and capacity-building regarding the conservation and sustainable use of the components of biological diversity. The focal points will provide an effective way of exchanging data and information relevant to the Global Programme of Action.

The substantive scientific, technical and technological work that will go into the preparation of documents to be submitted to the Convention's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) will provide a significant contribution to the preparation of guidelines which are proposed in the implementation of the Global Programme of Action, with particular reference to capacity-building for the conservation and sustainable use of marine and coastal resources at the national, regional and international levels.

In implementing the Convention, individual countries will develop assessments of the vulnerability of different components of biological diversity to human-induced threats including different pollutants, on which to base effective measures to conserve and sustainable use the different components of biological diversity. Here the clearing-house mechanism can play a key role in giving global coverage to advances made, case studies, new methodologies, and generally in exchanging information that can contribute substantively in the implementation of the Global Programme of Action.

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Annex IV

ROLE AND INPUTS OF UNITED NATIONS BODIES AND AGENCIES IN THE IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

The annex contains the description of the potential role and inputs of United Nations bodies and agencies in the implementation of the Global Programme of Action.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS - FAO

FAO is the largest specialized agency within the United Nations system. Since it's inception it has worked to alleviate poverty and hunger by promoting agricultural development, improved nutrition and the pursuit of food security. The Organization offers direct development assistance, collects, analyses and disseminates information, provides policy and planning advice to governments and acts as an international forum for debate on food and agriculture issues.

FAO is active in land and water development, plant and animal production, forestry, fisheries, economic and social policy, investment, nutrition, food standards and commodities and trade. It also plays a major role in dealing with food and agricultural emergencies.

A specific priority of the Organization is encouraging sustainable agriculture and rural development, a long-term strategy for the conservation and management of natural resources. In this context, it promotes an integrated approach, with environmental, social and economic considerations included in the formulation of development projects.

The areas in which FAO could contribute to the implementation of the GPA for the Protection of the Marine Environment from Land-Based Activities would include:

1. Identification and Assessment of Problems Related to Pesticides:

The Plant Protection Service (AGPP) is actively involved in helping countries establish and strengthen their plant protection capabilities, advising on organisation and management, providing operational guidelines and training scientific and technical personnel. AGPP assists in several actions relevant to the implementation of the GPA, including specifically:

(a) The International Code of Conduct on the Distribution and Use of Pesticides. It was developed to address a number of difficulties associated with the use of pesticides in developing countries where adequate regulatory infrastructures are frequently lacking. The code incorporates the principle of Prior Informed Consent (PIC) on the basis of which countries are provided with detailed information on the chemical in question and on reasons for bans or severe restrictions in the form of Decision Guidance Documents. In the light of this information, countries are asked to assess their position and the risk associated with pesticide, and to make timely and informed decisions as to the importation and use of the chemical concerned. The import decisions are transmitted to all other participating countries every six months.

(b) Activities on Persistent Organic Pollutants (POPs). Based on its vast experience in the sound management and evaluation of pesticides, and the overlapping character of pesticides subject to the Prior Informed Consent procedure and the activities on Persistent Organic Pollutants, AGPP has contributed and continues to provide the following information on POPs: toxicological profiles; evaluation of pesticide residues in food; information concerning possible alternative pesticides; and collection of data on production and consumption of pesticides qualifying for POPs in collaboration with the Statistical division of FAO.

(c) Pesticide Disposal. In many developing countries, considerable stocks of outdated

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pesticides have accumulated which represent a potentially significant hazard to human health and the environment. A series of technical guidelines are being developed, in cooperation with UNEP and WHO, relating to the disposal of pesticide containers and pesticide waste as well as how to more effectively manage pesticide stocks in order to prevent the accumulation of obsolete stocks in the future.

2. Identification and Assessment of Problems Related to Nutrients:

The Plant Nutrition Management Service (AGLN) is responsible for all activities related to plant nutrition management and the supply of plant nutrient sources to farmers. AGLN proposes the following objectives as basis for action to control, prevent and reduce the transfer of loads of nutrients to the marine environment:

(a) To identify in broad terms the flows of nutrients and organic materials supplied by the main watersheds to the sea, or by the main point sources (cities, industries);

(b) To identify economically viable methods and economic/financial incentives for:

  (i) a better management of plant nutrient cycles in cropped areas, limiting losses;

  (ii) the recycling to crops of organic wastes after proper processing, limiting the dumping of heavy metals and undesirable chemical compounds, pests and diseases to the cropped area;

  (iii) the trapping of plant nutrients transported in excess by surface water to the sea;

(c) To promote legislation, investments and organization reducing the load of nutrients and organic materials where eutrophication has taken or will rapidly take place under present trends;

(d) To protect and, where appropriate, to develop the areas where it is biologically and economically feasible to extract plant nutrients from surface waters;

In pursuing these objectives, AGLN has presented project proposals to several donors for a better management of plant nutrient cycles and the recycling of organic wastes in agriculture. A regional project is ongoing with the support of Japan on Effective Management of Nitrogen Fertilizers in irrigated rice fields and the environment in South-East Asia.

3. Identification and Assessment of Problems related to Sediment Mobilization:

The Soil Resources, Management and Conservation Service (AGLS) is responsible for development and application of integrated land resources planning and management; the inventory, evaluation, development and improvement of soil resources, their management and conservation in close cooperation with regional and field staff. This service also promotes soil and land use classification and correlation at world and regional levels and the creation of regional and national soil and terrain databases.

In relation to the problem of sediment mobilization, AGLS has contributed to the development of a common consolidated erosion mapping methodology for Mediterranean coastal areas. This instrument provides two types of information:

(a) Assessment of current on-site and active erosion processes and subsequent identification of curative measures;

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(b) Analysis of potential erosion in specific areas based on parametres such as physiography (slopes), lithography and/or soils and land vegetation cover, and subsequent identification of preventive measures.

This mapping methodology is coupled with parallel measurement operations which aim to evaluate actual soil loss by measuring discharges in experimental plots and/or subwatersheds affected by specific and well representative erosion constraints. Erosion mapping identifies and describes dynamic processes in a qualitative way, including extreme situations such as overall irreversible degradation on one hand, and stable, non-affected areas on the other. Experimental measurement data would be of particular need and relevance to all intermediate and typical cases where land degradation, and specifically soil erosion, need to be quantified and assessed in terms of priority after having been identified and located by means of systemic mapping.

4. Forest Management in Coastal Areas:

The Forest Resources Division (Forest Resources Development Service and Forest Conservation Research and Education Service) is responsible for the assessment, management, conservation and development of forest resources of all types: within this programme many activities are developed that contribute to minimizing effects of land based activities on marine ecosystems: prominent among them are the conservation, management and development of mangrove ecosystems and the management of coastal watershed.

(a) Managing and Conserving Mangrove Forests: Mangrove forests play key functions including i) the regulation of water flows on coastal and riverine areas facilitating the maintenance of important biological processes; ii) the protection of coastal areas against erosion, but also iii) the sequestration of incoming sediments mobilized from the continent. The conservation of mangroves and their sustainable management contribute to protecting the coastal areas and marine systems. This involves assessment of resources through specific projects and studies or the 10 year global forest resources assessment exercises; effective management of mangrove systems to secure normal utilization of the forest; and facilitating regeneration of mangrove on depleted areas. At the moment FAO, with the support of the Netherlands, is launching the formulation of an important project on the conservation and development of Mangrove forests of West Africa which if implemented will contribute much to the protection of marine areas in a region where erosion is taking billions of tons of material to the sea.

(b) Watershed Management in Coastal Areas: Managing Plateau or mountain watershed in areas close to the sea is essential to curbing the inflow of sediments to the sea. The contribution of the Forest Conservation, Research and Education Service in this area involves the coordination of work on chapter 13 of Agenda 21 (Sustainable Mountain development and on upland watershed management).

5. Aquaculture Management in Inland and Coastal Areas:

The Inland Water Resources and Aquaculture Service (FIRI) of the FAO Fisheries Department is in charge of all activities related to inland fisheries and aquaculture, including planning, conservation and management of resources, monitoring of status and trends of the two sub-sectors, development of technologies for sustainable enhancement of inland fisheries, and integrated resource management in aquaculture. FIRI is active in several technical areas relevant to the scope of the Global Plan of Action. A summary of major relevant activities is given as follows:

(a) Responsible Aquaculture Development: FIRI has contributed to the formulation of Article 9 - "Aquaculture Development" of the Code of Conduct for Responsible Fisheries which was adopted by the 28th Session of the FAO Conference in October 1995. This Article contains provisions for the responsible development of aquaculture including culture-based fisheries in areas under national jurisdiction and within transboundary aquatic ecosystems, for the use of aquatic genetic resources, and for responsible aquaculture practices at the production level. Currently, efforts are being undertaken to prepare aquaculture specific guidelines in support of the implementation of the provisions given in the Code of Conduct for Responsible Fisheries.

(b) Environmental assessment and management of aquaculture development in Asia-Pacific: During 1992-1994, technical assistance was provided by FIRI to 18 countries in Asia-Pacific through a regional project on the environmental assessment and management of aquaculture development, which helped identifying major environmental interactions of aquaculture as well as possible actions to ensure sustainable development of aquaculture through sound conservation and management of resources utilized by the sector.

(c) Promotion of environmental management of coastal aquaculture development: In relation to coastal aquaculture, including both land- and seabased practices, FIRI has produced technical guidelines for the promotion of environmental management of coastal aquaculture development, published in 1992. FAO is the lead agency for GESAMP Working Group on Environmental Impacts of Coastal Aquaculture for which FIRI provides the technical secretariat. Two major reports have been produced by this GESAMP Working Group: "Reducing environmental impacts of coastal aquaculture" (1991) and " Monitoring the ecological effects of coastal aquaculture wastes" (in press). Currently, this expert group is working on environmental hazards and safe use of chemicals in coastal aquaculture.

FIRI will continue to provide technical and policy advice to FAO Member Countries on options for environmental management of aquaculture operations covering aspects such as efficient utilization of resources (land, water, seed, feed, etc.), sustainable expansion of aquafarms (with particular emphasis on appropriate allocation of space with a view of conserving valuable habitats and endemic living resources), and opportunities and constraints of intensification of aquaculture practices.

INTERNATIONAL MARITIME ORGANIZATION - IMO

IMO is the specialized agency of the United Nations with exclusive global responsibility for the regulation of maritime transport. IMO has promoted the adoption of over 40 different conventions and protocols and numerous codes, guidelines and resolutions. As well as safety of life at sea, these cover marine environment protection, liability and compensation. IMO activities planned and carried out in relation to its conventions can be adjusted and/or adapted to assist and complement the activities of national and other organizations in their mandate related to the implementation of the Global Programme of Action. This would be in line with IMO's attempt to move away from sectorial and segmented thinking, and to develop integrated strategies encompassing impacts from sea-based and land-based activities within comprehensive preventive and proactive management approaches. However, such additional activities may need extra financial resources and, in cases where the work programme of IMO is affected, approval by IMO governing bodies.

Contribution by IMO to the implementation of the Global Programme of Action would be available in the following fields:

(a) Oil in the marine environment. Discharges of oil from ships are regulated by IMO conventions. The effectiveness of related legal provisions is evaluated by carrying out assessments of oil entering the marine environment, particularly from maritime activities. The assessments, however, also include oil entering the sea from land-based sources and offshore activities. The assessment methodologies used so far are being reviewed by a small expert group established under GESAMP.

(b) The hazard of harmful substances carried by ships. The database developed by GESAMP includes information on the potential impact on the environment of about 2,500 chemicals if discharged or spilled at sea. This information is valuable for response measures to be taken in cases of accidents during cargo handling in ports and harbours. The data system is also very useful in providing an oversight of potential effects of discharges of industrial effluents containing these chemicals into the aquatic environments.

(c) Global waste survey database and network. The waste inventory was established under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 1972, to evaluate the effects of the total ban on industrial waste dumping and incineration at sea. The database includes a number of national waste management profiles which can easily be extended. The database is being reviewed to incorporate aspects relating to other IMO sea-based activities, e.g. availability of adequate port reception facilities for shipborne wastes and contingency measures.

(d) Dredged material bibliographic data bank. This data bank was developed under the London Convention 1972 in cooperation with the dredging industry and could be expanded to include information on sources of contamination of dredged material, in particular regarding discharges into inland waterways. This will be facilitated through the use of the Dredged Material Assessment Framework which was adopted in 1995 by resolution LC.52(18).

(e) Waste Assessment Framework. This is proposed to become an annex to the revised London Convention 1972 and is applicable to decisions in relation to the management of wastes from land-based activities. Considerations under the Framework include a waste prevention audit, different waste management options, establishment of national action levels, etc.

(f) Data bank and information network on ballast water research regarding introduction of alien species. This is being established by IMO and contributes to measures to be taken for the protection of marine biodiversity.

(g) Global Sewage Survey. This was again requested in 1995 by the Consultative Meeting of Contracting Parties to the London Convention 1972 to be carried out under a multi-agency mechanism. An outline for such a survey had been prepared in 1991 by the London Convention Scientific Group, with a view to assessing the implications of a complete ban of sewage disposal at sea subject to the London Convention 1972. The IMO Secretariat was requested to approach other United Nations agencies and to identify an organization that would take the lead on such a survey. No financial resources have yet been identified that would enable IMO to conduct the necessary activities.

Institutional focal point: Mr. Manfred K. Nauke, Chief, Office for the London Convention 1972, Marine Environment Division, International Maritime Organization, 4 Albert Embankment, London SE1 7SR, United Kingdom;
Telephone: (44 171) 587 32 10; Fax: (44 171) 587 32 10.

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO - IOC

The Commission was set up as a specialized United Nations body to deal with ocean sciences and services. It operates as a functionally autonomous body within UNESCO, under the authority of its own governing bodies (Assembly and Executive Council) and their subsidiary organs, including a number of regional bodies.

IOC, through the concerted efforts of its member States, carries out a broad spectrum of programmes ranging through collection and management of ocean data, provision of ocean information products and advice, ocean mapping, capacity building and preparation of technical documentation.

Many of the IOC activities are joint undertakings with other relevant agencies[23].

Through its science and technical programmes, IOC is ready to assist, as appropriate, in ocean data management and exchange, ocean science related to living and non-living ocean coastal resources, ocean observing technology, sea-level problems, etc. IOC would be an appropriate mechanism to serve the Global Programme of Action as a scientific body, both on an overall global scale, and where convenient, on a regional scale through its own regional organizations.

Through GIPME, IOC is ready to assist in several actions relevant to the implementation of the Global Programme of Action, including specifically:

- Development of methods, with related manuals, for contaminant analyses and quantification of the biological effects;
- Organization of relevant training activities with associated quality assurance programmes and inter-calibration exercises;
- Organization of implementation, on a regional scale, of the International Mussel Watch Programme for contamination surveying, with related interpretation, including application as an early warning system; and
- With relevant regional mechanisms, including IOC regional subsidiary bodies, organization and preparation of regional syntheses, as support for the GESAMP overall assessment work.

Through GOOS, IOC is ready to organize or assist in the organization of relevant coastal zone observations and related data exchange for the health of coastal waters, including:

- Contaminant level determination;
- Nutrient baseline stations;
- Other water quality related observations; and
- Coral reef monitoring as a regional to global early warning pilot system.

Through the jointly sponsored Harmful Algal Bloom Programme of IOC and UNEP, IOC is ready to organize local and regional harmful algal bloom plot monitoring projects, including the evaluation of uses of harmful algae as indicator species and their relationship to inputs from land.

Institutional focal point: Mr. Gunnar Kullenberg, Executive Secretary, Intergovernmental Oceanographic Commission, UNESCO, 1 rue Miollis, 75732 Paris Cedex 15, France; Telephone: (33 1) 456 839 83;
Fax: (33 1) 405 693 16.

INTERNATIONAL ATOMIC ENERGY AGENCY - IAEA

1. Radioactive substances

The IAEA is specialized United Nations agency which maintains a unique expertise in matters related to radioactive waste management and the impact of radiactive substances on human health and the environment. Many functions of the IAEA are closely related to the implementation of the Global Programme of Action. The IAEA is active in developing standards and promiting reseach into methods for the safe and environmentally sound treatment, processing and disposal of radiactive wastes. Guidance is being offered to countries on the safety and environmental impact assessment of waste management facilities and practical assistance and training is being provided related to radiactive waste management and the monitoring of radionuclides in the environment.

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[23] Two of IOC's joint programmes with other agencies (GIPME and GOOS) are described in annex I.

In the implementation of the Global Programme of Action, IAEA is willing to coordinate international efforts towards controlling discharges of radioactive materials into the marine environment. This activity will include:

(a) The development of standards for controlling discharges of radioactive materials to the marine environment;

(b) The acquisition and dissemination of information on options, methods and technologies for the control of discharges;

(c) The development of inventories of worldwide discharges of radionuclides from nuclear installations and other, non-nuclear, facilities into the environment, including the marine environment;

(d) The assessment of the impact of discharges;

(e) The regular publication of data on discharges and their environmental impacts.

It is noted that IAEA already maintains a database on the solid radioactive materials which have entered the marine environment by controlled disposal (dumping) and as a result of accidents at sea, and has issued a report on the subject. In addition, IAEA maintains a database on the levels of radioactive contamination in the oceans.

The IAEA maintains in Monaco the only marine laboratory (Marine Environment Laboratory, MEL) within the United Nations system and, on the basis o tripartite agreement between IAEA, UNEP and UNESCO-IOC, supports marine pollution related research and monitoring. Through the MEL, the IAEA supports GIPME, GOOS and acts as a regional analytical centre for UNEP's Mediterranean Action Plan.

Building on the expertise available at the MEL, and on the experience gained in more than 15 years of collaboration with UNEP on the assessment and monitoring of pollutants in the marine environment, including particularly the quality control of obtained data, the IAEA/MEL is ready to assist in a number of activities relevant to the implementation of the Global Programme of Action, specifically:

(a) Organization and implementation of data quality assurance programmes ensuring the assessments of major marine contaminants from land-based sources (e.g., POPs, trace elements and oil) are reliable and intercomparable on regional and global levels;

(b) Preparation and testing of reference methods and guidelines for marine pollution assessment and monitoring;

(c) Design of national and regional marine pollution monitoting programmes;

(d) Training in analytical chemistry relevant to research and monitoring of marine pollutants; and

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(e) Strengthening or establishment of regional technical support centres relevant to marine pollution research and monitoring.

Institutional focal points: Mr. Abel Gonzalez, Director, Division of Radiation Protection and Waste Safety, IAEA, Wagramerstrasse 5, P.O. Box 100, A-1400 Vienna, Austria; Telephone (43 1) 2060-22654; Fax: (43 1) 20607; and Ms. Milena Horvath, Head, IAEA Marine Environmental Studies Laboratory, P.B. No. 800, MC-98012, Monaco Cedex; Telephone (33 920) 52222; Fax: (33 920) 53963.

2. Other pollutants

IAEA maintains in Monaco the only marine laboratory within the United Nations system (Marine Environment Laboratory (MEL)), and, on the basis of a tripartite agreement between IAEA, UNEP and IOC of UNESCO, supports marine-pollution-related research and monitoring. Through MEL, IAEA supports GIPME, GOOS and acts as a regional analytical centre for the Mediterranean Regional Seas Programme.

Building on the expertise available at MEL, and on the experience gained in more than 15 years of collaboration with UNEP on the assessment and monitoring of pollutants in the marine environment, including particularly the quality control of obtained data, IAEA is ready to assist in a number of activities relevant to the implementation of the Global Programme of Action. Specifically, IAEA/MEL could assist with:

(a) The organization and implementation of data quality assurance programmes ensuring that assessments of major marine contaminants from land-based sources (including POPs, trace elements, oil) are reliable and intercomparable on regional and global levels;

(b) The preparation and testing of reference methods and guidelines for marine pollution assessment and monitoring;

(c) The design of national and regional marine pollution monitoring programmes;

(d) The training in analytical chemistry relevant to research and monitoring of marine pollutants; and

(e) The strengthening or establishment of regional technical support centres relevant to marine pollution research and monitoring.

Furthermore, IAEA provides assistance in the use of isotope techniques to assess hydrological processes governing radioactive and non-radioactive pollutants and sediment transport into the marine environment.

Institutional focal point: Ms. Milena Horvat, Head, IAEA Marine Environmental Studies Laboratory, B.P. No. 800, MC-98012, Monaco Cedex; Telephone: (33 92) 052 222; Fax: (33 92) 053 963.

INTERNATIONAL MONETARY FUND - IMF

UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS - UNCHS/HABITAT

UNITED NATIONS DEVELOPMENT PROGRAMME - UNDP

UNDP is the largest multi-lateral donor of grant funds for development. With a network of 136 field offices in programme countries, UNDP stands ready to work with UNEP for the effective implementation of Global Programme of Action. The objectives of the Global Programme of Action are directly in line with UNDP's own focus on sustainable human development.

There appear to be at least four areas where UNDP could play a major role in the implementation of the Global Programme of Action:

(a) UNDP, together with other agencies, is developing significant programmes for the management of freshwater resources (Water Partnership) as well as for the management of coastal and ocean environments. These programmes could provide considerable support for the implementation of the Global Programme of Action;

(b) UNDP currently manages over $ 70 million worth of national, regional and global technical assistance and capacity building projects from the GEF and other sources in the field of freshwater, coastal and ocean management. Many of these projects are already assisting governments and regions in implementing some of the activities foreseen in the Global Programme of Action. The synergy could be further enhanced through sharing the Global Programme of Action and subsequent policy documents with the management of these projects. Looking toward the future, the Global Programme of Action will provide UNDP and its programme countries with a useful framework for new project initiatives and UNDP is ready to work with UNEP in this important area;

(c) At the national level, where the UNDP Resident Representative often serves as Resident Coordinator representing UNEP and other agencies, UNDP may enjoy a comparative advantage in donor coordination of technical assistance. At the regional level, UNDP is willing to work with the Regional Seas Programmes where they exist and is willing to help regional coordination where they do not;

(d) With respect to the planned clearing-house activities for the Global Programme of Action, which include information on funding needs and sources as well as broad types of other information, UNDP is willing to play an active role through its field offices and its 41 Sustainable Development Advisers in both supplying and distributing information.

In addition, UNDP is willing to play a supportive role in:

- Maintaining a constructive dialogue with UNEP and others on the overall status of the Programme;
- Continued working with UNEP at the Administrative Committee on Coordination (ACC) Subcommittees on Oceans and Coastal Areas and Water Resources to support the follow-up of the Global Programme of Action;
- Using the Sustainable Development Networking Programme (SDNP) to help countries link up to any databases which might be created in support of the Global Programme of Action, in the spirit of the Memorandum of Understanding dated 26 April 1995 between the Administrator of UNDP and the Executive Director of UNEP on cooperation between SDNP and Infoterra; and
- Other types of activities relevant to the mandate of UNDP.

Institutional focal point: Mr. Roberto Lenton, Director, Sustainable Energy and Environment Division, UNDP, One United Nations Plaza, New York, N.Y. 10017, USA; Telephone: (1 212) 906 50 00; Fax: (1 212) 906 50 01;
e-mail: roberto.lenton@undp.org.

UNITED NATIONS DIVISION OF OCEAN AFFAIRS AND LAW OF THE SEA - UN/DOALOS

UN/DOALOS serves as the secretariat of the United Nations Convention on the Law of the Sea, which lays down the comprehensive global legal framework for the protection and preservation of the marine environment from all sources, including land-based activities, and provides a strategic framework for national, regional and global action. The Division, consequently, is responsible for monitoring and reporting on all developments relating to the law of the sea and having importance for effective international cooperation in ocean affairs, for regular consideration by the General Assembly.

Areas in which DOALOS can contribute to the implementation of the Global Programme of Action would include:

(a) Preparation of a practical guide on the global and regional legal regimes relating to the protection of the marine environment, with particular reference to pollution from land-based activities. Such a guide could be published in a concise form and circulated widely to Governments, local authorities, relevant NGOs, practitioners, etc.;

(b) Development, with cooperation from the Treaty Section of the Office of Legal Affairs, of a centralized computer-generated information system on treaties relating to the law of the sea, particularly those deposited with the Secretary-General. Once it becomes operational, the database could be made available on-line to users outside United Nations Headquarters;

(c) Integration of the relevant components of the TRAIN-SEA-COAST (TSC) Programme (a joint programme of UN/DOALOS and UNDP) with the training and general capacity-building aspects of the Global Programme of Action. The TSC Programme is a cooperative inter-country network of training and educational centres aimed at strengthening capabilities in the field of coastal and ocean management, particularly the development of training solutions to address local and wider problems. The existing TSC Course Development Units (in Brazil, Costa Rica, Fiji, India, Philippines, Senegal, Thailand, United Kingdom and United States) could provide important support to national planning and programming under the Global Programme of Action, particularly as concerns the following:

- Development of a menu of training courses dealing with relevant aspects of the Global Programme of Action, such as: community participation in coastal zone management; strategies for the management of multiple use conflicts affecting coastal and marine resources, including ecosystem health and biological diversity and access to the resource base; and
- Regional exchange of course materials, training staff and information to strengthen capacity building at the regional level for the Global Programme of Action; common training courses that address shared problems within a region make efforts more cost-effective and their multiplier effect is considerable.

The TSC Programme could be incorporated within the Global Programme of Action framework by designating TSC Course Development Units (CDUs) in each Regional Seas Programme as being responsible for the preparation and delivery of training courses that address specific aspects of the Global Programme of Action within the particular regional context. The new TSC-CDUs, as they are created, will be able to share the existing menu of courses.

Institutional focal point: Mr. Moritaka Hayashi, Director, Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, United Nations, New York, N.Y., USA.

UNITED NATIONS INSTITUTE FOR TRAINING AND RESEARCH - UNITAR

UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA - ECA

UNITED NATIONS ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN - ECLAC

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE - ECE

ECE serves as the secretariat of the Convention on Long-Range Transboundary Air Pollution in Europe. Through the Convention a lot of experience has been gained not only in monitoring, modelling and assessing pollution of land and sea through the atmosphere but also in developing technological measures and legal instruments to control and reduce such pollution. This experience is highly relevant and will be used in the implementation of the Global Programme of Action.

UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC - ESCAP

UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA - ESCWA

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION - UNESCO

UNESCO is interested in contributing to the implementation of the Global Programme of Action through those ongoing and planned activities of UNESCO and its Intergovernmental Oceanographic Commission (IOC) which are of direct relevance to the Global Programme of Action. They include IOC's programmes on the Global Investigation of Pollution in the Marine Environment (GIPME) and the joint inter-agency group GESAMP, as well as relevant activities of Man and the Biosphere (MAB) Programme, the International Hydrological Programme (IHP), and the International Geological Correlation Programme (IGCP).

Institutional focal point: Mr. Gisbert Glaser, Director, Bureau for Coordination of Environment Programmes, UNESCO, 7 place de Fontenoy, 75352 Paris 07 SP, France; Telephone: (33 1) 456 810 00;
Fax: (33 1) 456 716 90.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION - UNIDO[24]

On a world-wide scale, the industrial sector is responsible for an increasing part of the pollutant discharges to the marine environment causing in some cases severe environmental degradation. Being the United Nations specialized agency for industrial development, UNIDO may contribute substantially to a joint effort to implement the Global Programme of Action, particularly in the field of cleaner production, covering areas such as industrial policy, management and transfer of technology, promotion of technological cooperation and innovation, and access to sources of technical advice and cleaner production information.

Industrial activity is often concentrated in coastal regions or along connected inland waterways, and pollution loads and the competition for scarce resources, such as space and freshwater, have resulted in conflicts with other sectors including tourism, fisheries and urban development. In this respect, it is important to focus on an integrated approach for development of the different sectors, utilizing concepts such as integrated coastal area management. UNIDO is therefore strongly supporting the initiative of UNEP aiming at a more efficient overall approach to coastal development and marine environment protection by coordinating the activities of the various United Nations agencies responsible for the different sectors and disciplines.

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[24] In addition to the text appearing in this annex, a seven-page contribution was received from UNIDO on the "Role and inputs from UNIDO in the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities".

Institutional focal point: Ms. Tcheknavorian-Asenbauer, Managing Director, Industrial Sectors and Environment Division, United Nations Industrial Development Organization - UNIDO, Vienna International Centre, P.O. Box 300, A-1400 Vienna, Austria; Telephone: (43 1) 211 310; Fax: (43 1) 238 348.

UNITED NATIONS UNIVERSITY - UNU

WORLD BANK

WORLD HEALTH ORGANIZATION - WHO

WHO is prepared to support the implementation of the Global Programme of Action through its intrinsic link to the GEMS/WATER programme coordinated by UNEP within the framework of GEMS (see annex III) and the workplan of UNEP's Water Unit which are implemented jointly by WHO, UNESCO and WMO.

Specifically, WHO will:

- Provide data collected through GEMS/WATER on sources, amounts and pathways of water and air pollutants;
- Participate in the development of guidelines needed for the implementation of the Global Programme of Action[25];
- Contribute in capacity building, based on existing tools and instruments, to meet the specific needs for assessing and controlling land-based pollution sources and pathways[26];
- Contribute to the evaluation of the effects of land-based activities upon the freshwater environment and participate in the evaluation of these effects on the marine environment, through GESAMP or otherwise;

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[25] The identification of land-based activities has been facilitated in past Regional Seas projects through a methodology developed by WHO. The methodology is now being refined and computerized in collaboration with UNEP. Its latest application is in the Black Sea Programme. Major work has been done on air pollution sources which will be of direct relevance to the control of atmospherically transported land-based marine pollutants.

[26] Tools and Instruments for Water Pollution Control have been developed jointly by WHO and UNEP under the Water Supply and Sanitation Collaborating Council. They may be of direct use in the design and implementation of national programmes related to Global Programme of Action for the control of land-based activities generating water pollutants.

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- Assist in, and contribute to, the meetings organized in the broad framework of the Global Programme of Action;

- Assist in the formulation and implementation of regional, subregional and national strategies and action programmes related to Global Programme of Action; and

- Provide assistance, within the framework of WHO's mandate and expertise, needed for the implementation of the Global Programme of Action.

Institutional focal point: Mr. Richard Helmer, Chief, Urban Environmental Health, Division of Operational Support in Environmental Health, World Health Organization - WHO, Av. Appia 20, CH-1211 Geneva 27, Switzerland; Telephone: (41 22) 791 21 11; Fax: (41 22) 791 07 46.

WORLD METEOROLOGICAL ORGANIZATION - WMO

WMO is ready to collaborate with UNEP in a number of activities related to Global Programme of Action, as well as inter-agency coordination and planning meetings. However, the approved WMO 1996-1999 programme and budget has no budgetary provisions for additional activities related to the Global Programme of Action and, therefore, WMO's participation in these activities, to the extent needed, will depend on availability of additional financial resources.

Keeping in mind that for some pollutants emanating from land-based activities the direct and indirect atmospheric transport contributes considerably to the global ocean load[27/], WMO's Global Atmosphere Watch (GAW) is its most relevant programme in terms of implementing of the Global Programme of Action. GAW, inter alia, deals with monitoring, modelling and assessing atmospheric transport and deposition of pollutants over land and sea on different time and space scales[28/], and could contribute to the Global Programme of Action through:

- Formulation and coordination of regional and national monitoring and assessment programmes, including the preparation of necessary manuals and guidelines, training of national experts, provision of monitoring equipment, organization of quality assurance programmes, collection of data and information, and preparation of technical reports and assessments both at regional and global levels;

- Preparation of popular brochures describing the relevance of atmospheric transport of pollutants from land-based activities into the marine environment; and

- Assistance in formulating protocols to regional conventions for protection of the marine environment as related to airborne pollution.

A number of other WMO programmes and activities could also be relevant to the Global Programme of Action. Specifically:

[27/] For instance: atmospheric inputs of some POPs (PCBs, DDTs, HCHs, HVB, dieldrin, chlordane) amount to 89-99 per cent of their total inputs into global oceans; inputs of heavy metals and nitrogen into regional seas could be up to 50 per cent; inputs of radioactive substances and petroleum hydrocarbons are also considerable.

[28/] GAW has no experience in developing technical or economic measures to control or reduce atmospheric pollution.

- World Climate Programme (WCP), World Climate Research Programme (WCRP) (with ICSU and UNESCO/IOC), and the Intergovernmental Panel on Climate Change (IPCC) (with UNEP) could be useful in assessing potential effects of climate change on various land-based activities as well as on marine and atmospheric circulations, and thus on pollution pathways;

- Marine Meteorology and Associated Oceanographic Activities Programme, which is aimed at providing marine meteorological and physical oceanographic services and information needed for ocean-based and coastal area economic activities; and

- Hydrology and Water Resources Programme, which deals with the assessment and forecasting of the quantity of water resources in order to meet the needs of all sectors of society, to enable mitigation of water-related hazards, and to maintain or enhance the conditions of the global environment.

Institutional focal point: Mr. F. Delsol, Director, Atmospheric Research and Environment Programme Department, World Meteorological Organization, 41 avenue Giuseppe-Motta, Case postale No. 2300, 1211 Geneve 2, Switzerland; Telephone: (41 22) 730 82 12; Fax: (41 22) 740 09 84.

WORLD TRADE ORGANIZATION - WTO

WORLD TOURISM ORGANIZATION - WTO

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Annex V

ROLE AND INPUTS OF OTHER AGENCIES AND ORGANIZATIONS IN THE IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

The present annex contains the description of the potential role in and inputs into the implementation of the Global Programme of Action of agencies, institutions and organizations which are not part of the United Nations system but have global programmes and activities relevant to the Global Programme of Action. The annex is incomplete as it contains only that information which could be obtained during the short period available for the preparation of the present document.

ADVISORY COMMITTEE ON PROTECTION OF THE SEA - ACOPS

ACOPS will support the implementation of the Global Programme of Action by convening a series of regional and global meetings on subjects of relevance to the Global Programme of Action. In order to achieve a maximal effect, the convening of these meetings will be closely coordinated with the overall strategy and timetable adopted for the implementation of the Global Programme of Action. Meetings planned for the near future include those in the East Asian, South Pacific and Wider Caribbean regions.

In addition, ACOPS will endeavor to secure the use of an oceanographic research vessel for the regional programme in the Red Sea and Gulf of Aden (see section 4(c) in annex II).

Institutional focal point: Mr. Viktor Sebek, Executive Director, ACOPS, 11 Dartmouth Street, London SW1H 9BN, United Kingdom; Telephone: (44 171) 799-3033; Fax: (44 171) 799-2933.

BALTIC MARINE ENVIRONMENT PROTECTION COMMISSION - HELCOM

HELCOM would be ready to contribute to the implementation of the Global Programme of Action with the experiences from the elaboration and implementation of the Baltic Sea Joint Comprehensive Environmental Action Programme and other environmental actions in the Baltic Sea area (see section 3 in annex II). It could also provide advice concerning experts in the Baltic Sea area who might be able and interested to participate in seminars, workshops, etc., in conjunction with the elaboration of regional or national programmes within the Global Programme of Action framework.

Institutional focal point: Mr. Ulf Ehlin, Executive Secretary, Baltic Marine Environment Protection Commission (HELCOM), Katajanokalaituri 6 B, 00160 Helsinki, Finland; Telephone: (358 0) 62 202 20; Fax: (358 0) 62 202 239.

EUROPEAN UNION

The European Union is an active participant in seven regional seas programmes as Contracting Party to the Barcelona, Cartagena, Nairobi, Noumea, Helsinki, Oslo and Paris Conventions. In addition, the European Union is a partner of the European Investment Bank, UNDP and the World Bank in METAP.[29]

FRIENDS OF THE EARTH INTERNATIONAL - FOEI

FOEI is a network of citizens' environmental organization in 54 countries around the globe. The member groups meet annually to coordinate their international programme and prioritize the environmental issues upon which they work jointly. Many of these organizations are working at national and community levels on environmental problems caused by land-based activities that contribute to the degradation of the marine and coastal environment. In addition, some are active in

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29/ For details on these programmes and METAP see annex II.

the negotiation and implementation of regional programmes and agreements, such as the Barcelona Convention and related Mediterranean environmental programmes.

FOEI and many of its national member organizations are directly involved in efforts to influence the programmes of international development institutions, such as the World Bank and the GEF. Therefore, FOEI can be helpful in the implementation of the Global Programme of Action by being in a position to work directly with national Governments as they develop their national action plans and with local communities as these plans are implemented.

FOEI can also be a source of information and advice to communities, Governments, and international development banks as projects are designed and funding decisions made.

Institutional focal point: Ms. Boyce Thorne-Miller, Ocean Advocates, 21210 Peach Tree Road, Dickerson, Md. 20842, USA; Telephone: (1 301) 972 88 48; Fax: (1 301) 972 70 28.

GLOBAL ENVIRONMENT FACILITY - GEF

GREENPEACE

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA - ICES

ICES was established in 1902, as an intergovernmental marine science organization concerned with the Atlantic Ocean and its adjacent seas and primarily with the North Atlantic. Under its Convention, the principal functions of ICES are to promote and encourage marine research, and to provide information and advice to member country Governments and regulatory commissions for the protection of the marine environment and for fisheries conservation. Extensive databases on fisheries, oceanography, and marine contaminants are maintained at ICES Headquarters in Copenhagen, Denmark.

The activities of ICES are based on the premise that international cooperation is vital for the conservation and rational utilization of living marine resources and the protection of the marine environment. More than 50 international organizations have observer status and cooperative relations with ICES, including HELCOM, OSPAR, North-East Atlantic Fisheries Commission (NEAFC), the Fisheries Division of FAO, IOC of UNESCO, the European Commission and WWF.

ICES has well-developed mechanisms for the preparation of independent, sound, balanced scientific information and advice on fisheries and marine environmental issues and, in this context, has served as to provide scientific information and advice to Oslo and Paris Commissions and the Helsinki Commission over the past two decades.

ICES, as a supporting organization for the implementation of the Global Programme of Action, could play a role in the development of technical guidelines for globally coordinated implementation of the Global Programme of Action. ICES could also provide scientific advice on relevant topics; this would mainly be based on existing ICES commitments to provide scientific information and advice on relevant marine-related topics, drawing on its broad base of existing activities.

Institutional focal point: Mr. Christopher C.E. Hopkins, General Secretary, International Council for the Exploration of the Sea - ICES, Palaegade 2-4, 1261 Copenhagen, Denmark; Telephone: (45) 331 542 25; Fax: (45) 339 342 15.

INTERNATIONAL COUNCIL FOR THE SCIENTIFIC EXPLORATION OF THE MEDITERRANEAN - ICSEM

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INTERNATIONAL GEOSPHERE-BIOSPHERE PROGRAMME: A STUDY OF GLOBAL CHANGE - IGBP

The work of IGBP/LOICZ on nutrient inputs into oceans (see annex I) focusing on the application of valuation techniques to coastal space and resources under a range of social and cultural conditions is offered as a contribution to the implementation of the Global Programme of Action.

In addition, the ongoing IGBP/LOICZ assessments at regional and global scale of riverine and groundwater fluxes and rates of change, and the planned modelling of basin-scale changes in human land-use (including deforestation, urbanization and industrialization and the resulting changes to fluxes) would contribute directly to the periodic analyses and evaluations planned to be undertaken in the framework of the implementation of the Global Programme of Action.

Institutional focal point: Mr. John Pernetta, LOICZ/IGBP Core Project Manager, Netherlands Institute for Sea Research, POB 59, 1790 Ab den Burg, Texel, The Netherlands; Telephone: (31 222) 369 403/4; Fax: (31 222) 369 430.

INTERNATIONAL OCEAN INSTITUTE - IOI

IOC will support the implementation of the Global Programme of Action by explaining the main parameters of the Global Programme of Action in its courses on Integrated Management of the Coastal Ecosystem which it will conduct in its worldwide network of Operation Centres in Canada, China, Costa Rica, India, Japan, Malta, Senegal, South Africa and the South Pacific. It will also conduct regional workshops in Canada, China, Costa Rica, India, Japan and Senegal to consider the whole question of sustainable management of the coastal and ocean areas.

Institutional focal point: Dr. Krishan Saigal, Executive Director, International Ocean Institute, P.O. Box 03, Gzira, Malta; Telephone: 346528, 346529; Fax: 346502.

OSLO AND PARIS COMMISSIONS

At their annual meeting (June 1995), the Commissions adopted, as element of their 1995 Action Plan the following: B.4 To develop specific activities to further inter-regional cooperation with, and transfer of expertise to, international and inter-regional organizations for the protection of the marine environment at regional and global level.

Specific proposals on how to implement the Washington Declaration in the framework of the Oslo and Paris Commissions are currently being elaborated by the secretariat of the Commissions. In view of the available experience and information, active cooperation and participation of the Commissions would seem possible and relevant in particular on the following issues:

- Elaboration and testing of guidelines for the globally coordinated implementation of the Global Programme of Action;
- Awareness building;
- Activities supporting the formulation of action programmes for other regions; and
- Clearing-house.

Institutional focal point: Secretariat of the Oslo and Paris Commissions, New Court, 48 Carey Street, London WC2A 2JQ, United Kingdom; Telephone: (44 171) 242 99 27; Fax: (44 171) 831 74 27 and 430 2999; e-mail: Compuserve 100517,1046 and Internet 100517,1046@compuserve.com.

STUDY ON INTERNATIONAL FISHERIES RESEARCH - SIFR

SIFR was established in 1992, to develop a mechanism for matching fisheries-related research priorities of developing countries with the interests of donors. It facilitates the coordination in fisheries research for the sustainable development of living aquatic resources. High priority is given to strengthening the capacity of research institutions in developing countries to conduct applied research at the local and regional level. In addition, SIFR seeks to encourage the support for strategic research through Consultative Group on Integrated Agricultural Research (CGIAR) centres involved in living aquatic resource management.

SIFR is managed by a Steering Committee, IDRC and Norwegian Agency for International Development (NORDA).

Institutional focal point: Mr Brian Davy, SIFR Secretariat, Ottawa, Canada; Telephone: (613) 236 61 63; e-mail: bdavy@idrc.ca.

WORLD CONSERVATION UNION - IUCN

IUCN has a long-standing experience in dealing with issues identified by Global Programme of Action through the network of IUCN member organizations and institutions, as well as experts associated with the work of IUCN. Moreover, UNEP and IUCN have a Memorandum of Understanding which provides an effective framework for cooperation on subjects related to the Global Programme of Action. Specifically, IUCN is ready to support Global Programme of Action through the following IUCN programmes:

- Marine and coastal programme (habitat level conservation and sustainable development, including integrated coastal management and large marine ecosystems);
- Ecosystem management (amalgamation of IUCN's marine and coastal, wetlands, and forestry programmes focusing on development of principles, policies and practices, through field projects, on integrated area management; development of a global voluntary network of scientists and managers interested in integrated area and ecosystem management);
- Species survival (numerous action plans developed by marine species specialists for endangered or threatened species, such as cetaceans, sirenians, marine turtles);
- Environmental law (information on environmental law relevant to Global Programme of Action; handbooks and guidelines on implementing international agreements);
- Biodiversity programme (biodiversity clearing-house and biodiversity conservation information system; economics of biodiversity loss and conservation); and
- Strategies programme (development of national conservation strategies.

Institutional focal point: Mr. John D. Waugh, Senior Programme Officer, 1400 16th Street, N.W., Washington, D.C. 20036, USA; Telephone: (1202) 797-5454; Fax: (1202) 797-5461; e-mail: iucnus@igc.apc.org.

WORLD WIDE FUND FOR NATURE - WWF

WWF, established in 1961, is today the world's largest non-governmental organization concerned with the conservation of nature and natural resources on an international scale. It has over 3.7 million members and over 50 affiliate, associate and programme offices worldwide. WWF's

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ultimate mission goal is to stop, and eventually reverse, the accelerating degradation of our planet's natural environment, and to help build a future in which humans live in harmony with nature.

Two of WWF's programmes are particularly pertinent to the implementation of the Global Programme of Action:

(a) The Resource Consumption and Pollution Programme is focused on preventing, reducing and eliminating pollution at source irrespective of the final sink for the pollutants. Efforts are concentrating on:

- The development of low cost pollution monitoring technology;
- Pesticide reduction programmes;
- Pollutant release and transfer registers (environmental monitoring); and
- The development of better understanding of and action on the threat to the integrity of life caused by sub-lethal impacts of pollutants;

(b) The Marine Programme focuses on integrated coastal area management, marine pollution prevention and fisheries.

Marine pollution targets include: synthetic organic compounds; oil and hydrocarbons; sewage; diffuse sources of nitrogen, pesticides and sediments; and litter. Efforts are concentrating on reduction of problems caused by these pollutants by reduction at source and by better management systems.

Programmes on integrated coastal area management address many of the coastal degradation problems highlighted in the Global Programme of Action, such as coastal erosion, river catchment management, introduction of alien species, and others.

The numerous ongoing and planned activities undertaken in the framework of these two programmes worldwide should be considered as WWF's contribution to the implementation of the Global Programme of Action.

Institutional focal point: Ms. Siân Pullen, WWF-UK, Panda House, Weyside Park, Catteshall Lane, Godalming, Surrey GU7 1XR, United Kingdom; Telephone: (44 1483) 426 444; Fax: (44 1483) 426 409.

Annex VI

WORKPLAN AND TIMETABLE FOR REGIONAL IMPLEMENTATION OF THE GLOBAL PROGRAMME OF ACTION

The workplan and timetable were prepared in consultation with the secretariats of the Mediterranean, Caribbean, East Asian Seas, West and Central African, Eastern African, South Pacific, South-East Pacific and the Black Sea Regional Seas Programmes (for details of these programmes see annex II). The indicated regional workplans, including their timetables, are based on activities and resources planned by the relevant governing bodies guiding the implementation of these programmes. The costs associated with the described activities are indicated whenever available.

The workplans related to the Global Programme of Action of the other programmes described in annex II are under preparation in consultation between UNEP and the secretariats coordinating their implementation.

1. MEDITERRANEAN REGION - Mediterranean Action Plan/Barcelona Convention and associated protocols

1.1 A meeting of government-designated legal and technical experts (3-4 March 1996) adopted amendments to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, as well as the revision of existing regional strategy to control pollution from land-based activities and the development of national programmes related to the Global Programme of Action. The cost of the meeting ($ 70,000) was borne by the Government of Italy.

1.2 A Conference of Plenipotentiaries of Parties to the Barcelona Convention and the Land-based Sources Protocol adopted the proposed amendments to the Protocol (6-7 March 1996). The cost of the conference ($ 110,000) was borne by the Government of Italy.

1.3 An extraordinary meeting of the Contracting Parties to the Barcelona Convention (1-5 July 1996) will be convened to adopt, inter alia, the third phase of the programme for the assessment and control of pollution in the Mediterranean region (MEDPOL III), shifting the focus of MEDPOL from assessment and formulation of common control measures to the implementation and enforcement of measures (legal, technical, economic, etc.) relevant to the protection of the Mediterranean from land-based activities. The cost of the meeting ($ 200,000) will be borne by the Government of France.

1.4 Direct assistance (such as: equipment; material; training; fellowships; data quality assurance; equipment maintenance and servicing; reference materials, standards and manuals) will be provided to national institutions participating in MEDPOL-related activities ($ 450,000 in 1996; $ 400,000 in 1997). The relevant costs will be met by the Mediterranean Trust Fund and UNEP.

1.5 Technical meetings to consider (i) guidelines for dumping of dredge spoils (20-24 May 1996) and (ii) problems related to toxics reduction in the Mediterranean Sea, focusing on POPs, and possible control measures (2-4 October 1996). The cost of the first meeting will be covered by the Government of Spain ($ 60,000), while the second one will be supported ($ 60,000) by combined contributions from the Mediterranean Trust Fund, the Government of France and industries.

1.6 An analysis and evaluation will be prepared of major land-based sources of pollution and activities affecting the quality and uses of the Mediterranean marine environment, including the identification of "hot spots" and impacts of land-based activities requiring priority actions (November 1996-February 1997). The costs associated with this activity are estimated as $ 60,000 and are expected to be covered by Mediterranean Environmental Technical Assistance (METAP)/World Bank or GEF.

1.7 For the strengthening of national institutional and personnel capacities to deal with environmental problems in particular, assistance will be given for the development of national "environmental inspectorates" for monitoring and enforcement of environment protection measures, including control measures related to land-based activities (June-December 1997). Associated costs, including those for training courses, are estimated as $ 100,000 and are expected to be covered by METAP/UNDP or GEF.

1.8 A meeting of government-designated experts will be held (tentatively on January- March 1997) to develop regional programmes related to the Global Programme of Action, as well as short- and medium-term action plans specifying measures and timetables for their implementation. The same meeting will consider strategies and elements relevant to the development of national action programmes. Costs related to the preparatory activities leading to the meeting are estimated as $ 30,000, and the cost of the meeting itself as $ 70,000. Part of these costs ($ 20,000) will be covered by the Mediterranean Trust Fund, while the remaining balance is expected to be provided by UNEP or GEF.

1.9 Site- and pollutant-specific studies will be prepared for identified "hot spots", priority pollutants and harmful activities, including proposals for projects and programmes designed to mitigate or eliminate their detrimental effects (starting from March 1997). Costs related to this activity are expected to be met through the Global Programme of Action's clearing-house mechanism and resources mobilized through the donor conference (see paragraph 11 below) or GEF.

1.10 A meeting of Contracting Parties to the Barcelona Convention and its Protocol on land-based sources of pollutants will be convened to adopt the regional programmes related to the Global Programme of Action referred to in paragraph 1.8 above (June 1997). The estimated cost of the meeting ($ 200,000) will be covered by the Mediterranean Trust Fund.

1.11 A conference of potential donors will be organized (November 1997), in cooperation with UNDP, the World Bank and the European Union, to consider support to projects and programmes referred to in paragraph 1.9 above.

2. CARIBBEAN REGION - Caribbean Environment Programme (CEP)/Cartagena Convention and associated protocols

2.1 The Regional Coordinating Unit (RCU) for the Caribbean Environment Programme (CEP) now has the first draft of a protocol dealing with land-based sources of marine pollution. An ad hoc group of experts met in March 1996 to discuss the draft and provide recommendations for its improvement. The cost of the meeting ($ 20,000) was covered by the Government of the United States.

2.2 The draft protocol will be presented for further consideration to a meeting of legal, technical and policy experts (June 1996), and subsequently to the Governments of the region for their comments. The costs of the meeting was covered by the Government of the United States of America and the RCU. The adoption of the protocol is envisaged for November 1997.

2.3 A two-year UNDP/World Bank/GEF project, carrying $ 1.5 million, for planning and management of heavily contaminated bays and coastal areas is underway. CEP participates in the project through the Integrated Planning and Institutional Development (IPID) regional programme, jointly coordinated by UNDP and UNEP. The objective of the project is to prepare pre-feasibility studies for four sites located in Cuba, Colombia, Jamaica and Costa Rica.

2.4 The regional IPID programme fosters rehabilitation and management of heavily polluted bays and coastal areas in three countries (Trinidad and Tobago, the Dominican Republic and Venezuela). The cost of the programme is $ 210,000, mainly covered by contribution from the Swedish International Development Authority (SIDA). Under the IPID Programme a series of pilot studies are also being

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undertaken in various parts of the Caribbean. These studies are presently supported by SIDA ($ 150,000). In planning and execution of the IPID programme the Global Programme of Action is fully taken into account.

2.5 A regional inventory of land-based sources of pollution was reviewed and published during 1995. During 1996, the assessment of non-point sources is planned to be undertaken. Estimated costs ($ 100,000) are expected to be covered by UNEP.

2.6 During 1996/1997, the regional programme on assessment and control of marine pollution (CEPPOL) is expected to: (i) continue updating information relevant to land-based sources of pollution in the region ($ 110,000 from the United States Environment Protection Agency (US-EPA)) on assessment of domestic, industrial and agricultural land-based sources of pollution is planned to be launched in early 1996, with focus on sewage and agricultural non-point sources. The results of the assessment are planned to serve as the technical basis for the development of source-specific annexes of the land-based sources protocol; (ii) initiate pilot studies on pesticide assessment and control ($ 175,000 from Caribbean Trust Fund, UNEP, and contributions from Governments); (iii) investigate the causes and effects of eutrophication ($ 30,000 from the Trust Fund, UNEP and contributions from Governments); and undertake a programme for debris management and control ($ 235,000 from the Trust Fund, UNEP and contributions from Governments).

2.7 A CEPPOL symposium is planned for late 1996 to revise the CEPPOL workplan for activities mentioned in the preceding paragraph in order to incorporate concerns related to the Global Programme of Action in these activities. The revised workplan will be submitted for approval of the Eighth Intergovernmental Meeting and the Sixth Meeting of the Contracting Parties tentatively scheduled for December 1996.

2.8 The network of protected areas, established in the framework of the existing Protocol Concerning Specially Protected Areas and Wildlife (SPAW) and its associated programmes (i.e., establishment of a Regional Activity Center finnacially supported by the Government of France), will be operational by the end of 1997. The activities of the network will contribute considerably to the implementation of the Global Programme of Action, the International Coral Reef Initiative, and the Convention on Biological Diversity.

2.9 In addition, a Wider Caribbean survey, co-financed by the US AID ($ 700,000) is being undertaken under SPAW, and it is expected to be finalized by September 1998.

2.10 A project to establish the first Wider Caribbean data management system on coastal and marine resources, jointly spondored by the Inter-American Dvelopment Bank) and the CAR/RCU, is expected to begin by late 1996.

3. EAST ASIAN SEAS REGION - East Asian Seas Action Plan

3.1 A meeting/workshop on ecological consequences of land-based oil discharges to coastal waters was convened (22-26 April 1996) as the fourth meeting/workshop in the series initiated in 1993 under the general theme of biological effects of pollutants. The costs of the meeting were covered by the contribution from the Government of Germany ($ 80,000) and the East Asian Seas Trust Fund ($ 10,000).

3.2 The fifth and the sixth meeting/workshop in the same series will be held in the last quarter of 1996 and the first quarter of 1997, respectively. They will be implemented directly by the Government of Germany as part of their bilateral financial support with some of the East Asian Seas member countries.

3.3 The Sixth Meeting of the East Asian Seas Experts (May 1996) will be convened in 1997 with the cooperation of the Association of Southeast Asian Marine Scientists (ASEAMS). The purpose of the meeting will be to develop, inter alia, specific project proposals related to the Global Programme of Action for the consideration and adoption by the 13th meeting of COBSEA in conjunction with the Regional Programme of Action on land-based activities affecting coastal and marine areas in the East Asian Sea. The costs of the meeting of experts ($ 35,000) will be met by UNEP. UNEP's contribution to the meeting of COBSEA will be $ 10,000, while the remaining cost (estimated as about $ 50,000) will be in the form of in-kind contributions from the participating member States.

3.4 Consultations will be carried out in order to review and expand the Regional Programme of Action to cover all 10 member States of the East Asian Seas Action Plan, and to identify the countries' needs for technical assistance in the implementation of the Programme of Action. The cost of consultations ($ 10,000) will be covered by the East Asian Seas Trust Fund.

3.5 A technical meeting of experts will be convened in the last quarter of 1996, or early 1997, in order to: (i) evaluate major land-based sources of pollution, with special emphasis on POPs; identify "hot spots" and impacts on coastal and marine ecosystems, as well as data quality issues; and (ii) prepare site- and pollutant-specific studies, including proposals for projects and programmes aimed at mitigation measures. The estimated costs of the meeting ($ 80,000) are expected to be covered through the East Asain Seas Trust Fund ($ 10,000) and from resources to be raised through the Global Programme of Action clearing-house mechanism.

3.6 A meeting of government-designated legal and technical experts will be held in early 1997 to consolidate the Regional Programme of Action and all other activities and programmes of the East Asian Seas Action Plan related to the Global Programme of Action, and to draw-up detailed short- and medium-term strategies for the biennium 1998-1999 and beyond. The proposals of the meeting will be presented for the consideration and approval of the 13th meeting of COBSEA. The estimated costs of the experts meeting ($ 80,000) will be covered by UNEP ($ 20,000) and the East Asian Seas Trust Fund ($ 10,000) and resources expected to be raised through the Global Programme of Action clearing-house.

3.7 Publication of technical reports and public awareness materials will be undertaken throughout the biennium 1996-1997 at a cost of approximately $ 30,000, which will be met by UNEP. East Asian Seas Trust Fund and specific donor-funded projects.

4. WEST AND CENTRAL AFRICAN REGION - West and Central African Action Plan/ Abidjan Convention and associated protocols

4.1 An analysis and evaluation is planned to be prepared of major land-based sources of pollution and activities affecting the quality and uses of the marine environment of the region, including the identification of "hot spots" and impacts of land-based activities requiring priority actions (February - December 1996). A regional review is also be prepared of existing regulations and legislations relevant to control of effluents from land-based activities, including an assessment of their current and potential efficiency (February - December 1996). The estimated costs associated with these activities is $ 100,000.

4.2 A meeting of government-designated legal and technical experts is planned (January/February 1997) to develop national programmes related to the Global Programme of Action, including programmes for technical assistance and pilot studies on priority issues. The cost of the meeting is estimated as $ 100,000.

4.3 Technical assistance (e.g. equipment, material, training, data quality assurance, standards, manuals) will be provided to national institutions participating in the Action Plan. Estimated expenditure is $ 200,000.

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4.4 A meeting of the Contracting Parties to the Abidjan Convention will be held (June 1997) to consider the adoption of programmes referred to in paragraph 4.2. The estimated cost of the meeting is $ 80,000.

4.5 A conference of potential donors will be organized (October 1997), in cooperation with UNDP, the World Bank, FAO, the African Development Bank and Organization of African Unity (OAU), to consider support to programmes adopted by the Contracting Parties.

5. EASTERN AFRICAN REGION - Eastern African Action Plan/Nairobi Convention and associated protocols

5.1 The existing national inventories of land-based sources of pollution will be updated and used for the preparation of a regional overview - an evaluation and analysis of major land-based sources and activities affecting the quality and uses of the marine environment (February - March 1996). The cost is estimated at $ 30,000.

5.2 A regional overview of land-based sources of pollution in the region, based on national reports of the qualitative and quantitative estimates of land-based sources of pollution to the coastal and marine environment, will be prepared highlighting the major problems associated with land-based activities in the region and their root causes (March - April 1996). Estimated cost of the preparation of the overview is $ 45,000.

5.3 On the basis of the regional overview, a regional strategic action programme will be developed by the end of April 1996, focusing on the most appropriate options for intervention and solutions to the problems, and waste minimization programmes. The estimated cost is $ 20,000.

5.4 A popular booklet will be prepared in English and French (April - May 1996), highlighting major problems associated with land-based activities in the region and their root causes, possible solutions to the problem and the opportunities offered in the framework of the Global Programme of Action and the regional strategy. The estimated cost is $ 20,000.

5.5 A meeting of government-nominated technical and legal experts will be held to consider the revision of the Eastern African Action Plan and the Nairobi Convention in line with Agenda 21 and the Global Programme of Action, and to review and revise the strategic action programme mentioned in paragraph 5.3. above. In connection with the latter, the meeting will also identify the assistance required by the countries for the formulation of national country response strategies.

5.6 As an early step towards the implementation of the regional strategic action programme, site-specific national monitoring programmes will be developed and equipment made available to the institutions (April 1996). The aim will be to verify the qualitative and quantitative load estimates, and begin monitoring biological contaminants.

5.7 The draft of the revised Nairobi Convention and Action Plan resulting from the meeting mentioned in paragraph 5.5 will be submitted for the consideration of the Bureau of the Contracting Parties and for subsequent adoption by the meeting of Contracting Parties.

5.8 Country-based response strategies will be formulated with the assistance of UNEP through the Global Programme of Action Programme
(May 1996). The estimated cost is $ 20,000.

6. SOUTH PACIFIC REGION - South Pacific Regional Environment Programme (SPREP)/Noumea and Apia Conventions and associated protocols

6.1 A meeting of a working group will be convened (July 1996) to provide specific recommendations relevant to the formulation and implementation of national action programmes related to the Global Programme of Action. The meeting is also expected to identify (i) the assistance required by the countries for the formulation of national action programmes; and (ii) actions expected from the Secretariat of SPREP in support for the implementation of the regional strategy related to the Global Programme of Action. Costs associated with the meeting (estimated at $ 60,000) will be covered partly by SPREP and contributions expected from UNEP or other sources.

6.2 A booklet (brochure) will be prepared, by the second half of 1996, highlighting the major problems associated with land-based activities in the SPREP region, their root causes, possible solutions to the problems and possibilities offered in the framework of the Global Programme of Action and the regional Global Programme of Action strategy to obtain assistance for their solutions. The contents and style of the booklet will be tailored to the needs of a wide audience, ranging from government officials, business sectors, religious communities, educational institutions, non-governmental organizations and public at large. Costs associated with the preparation and distribution of the booklet are estimated at $ 40,000 and are expected to be covered by UNEP or other sources.

6.3 The existing regional inventory of land-based sources of pollution will be updated and used as the basis for the preparation of an analysis and evaluation of major land-based sources and activities affecting the quality and uses of the marine environment of the SPREP region, including the identification of "hot spots" and impact of land-based activities requiring priority actions (May - October 1996). Costs associated with the preparation of the analysis/evaluation are estimated as $ 90,000 and are expected to be covered by UNEP and other sources.

6.4 Revision of existing national environmental strategies developed in the framework of the SPREP in order to incorporate concerns related to the Global Programme of Action and land-based activities and the formulation of such national strategies in countries where they still do not exist (starting from mid-1996). Costs associated with the revision of national strategies are estimated at $ 60,000 and are expected to be covered by UNEP or other sources.

6.5 The formulation, revision and implementation of national action programmes will be assisted by the SPREP Secretariat, directly or through other appropriate channels and mechanisms, within the framework of resources available for that purpose from resources at the disposal of the SPREP. In view of the already identified needs of the countries in the SPREP region related to the Global Programme of Action the resources available to the SPREP are clearly inadequate, and therefore the SPREP Secretariat will aggressively seek support for the identification and formulation of specific national programmes and projects through the clearing-house mechanism of the Global Programme of Action.

7. SOUTH EAST PACIFIC REGION - South-East Pacific Action Plan/Lima Convention and associated protocols

7.1 The meeting of government-designated experts (January 1996) reviewed the state of the marine environment in the region, including the national inventories of land-based sources of marine pollution, and designed a programme for research, surveillance and control of marine pollution in the region Programme for Coordinated Research and Monitoring of Massive Pollution in the South-East Pacific Region (CONPACSE) taking into account the technical aspects of the Global Programme of Action. The costs of the meeting ($ 35,000) were shared between the South-East Pacific Trust Fund and UNEP.

7.2 A meeting of the government-designated consultative group will be convened (March 1996) to review the results of the 1994/1995 activities of the Action Plan, and to prepare recommendations for the workplan in the forthcoming period (1996/1997), with special emphasis on the implementation of the Global Programme of Action. The costs of the meeting ($ 20,000) will be shared between the South-East Pacific Trust Fund and UNEP.

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7.3 Conference of Plenipotentiaries to the Lima Convention will be held (March 1996) to consider and approve the programme of activities in the biennium 1996/97, taking into account the political and technical implications of the Global Programme of Action for the future development of the South-East Pacific Action Plan. The costs of the conference ($ 25,000) will be covered by the South-East Pacific Trust Fund.

7.4 A regional inventory of the land-based sources of marine pollution will be consolidated (by mid-1996) on the basis of national inventories prepared in 1995. The cost of the preparation of the regional inventory is estimated as $ 20,000 and will be covered by the South-East Pacific Trust Fund.

7.5 The Third International Conference on Research, Monitoring and Control of Marine Pollution of the South-East Pacific will be held in March 1997 to celebrate the 15th year of the South-East Pacific Action Plan. The Conference will be sponsored by CPPS, UNEP, IOC, IAEA, IMO, Pan American Centre for Sanitary Engineering and Environmental Sciences (CEPIS)/Pan-American Health Organization (PAHO) and ECLAC. The cost of the Conference ($ 100,000) is expected to be met by UNEP, IOC and other organizations and donors.

7.6 On the basis of data made available through CONPACSE, an updated regional review on the state of the marine environment will be prepared towards the end of 1996. The associated costs are estimated as $ 30,000, and will be covered by the South-East Pacific Trust Fund.

7.7 In cooperation with IAEA/MEL and UNEP, towards the end of 1996, a proposal will be prepared for the establishment of a regional laboratory in Panama to provide institutional and technical support to the further implementation of CONPACSE on national levels. Subject to endorsement of the proposal by the governing body of the Action Plan, it will be presented to GEF for financial support.

7.8 Technical support to national laboratories participating in CONPACSE will be continued in the biennium 1996/1997, with technical assistance of IAEA/MEL and financial support by UNEP ($ 200,000).

7.9 As a new component of CONPACSE, pilot surveillance studies are planned for organochlorine pesticides during 1996. Deployment of the necessary analytical equipment in national institutions and training of their experts is a precondition for launching these studies. The costs associated with the initiation of the studies (estimated as $ 30,000) and are expected to be covered by the South-East Pacific Trust Fund and UNEP.

7.10 During 1996, of the second phase of ongoing integrated coastal and marine zone management pilot studies will start in Bahia Valparaiso (Chile), Pisco-Paracas (Peru), Bahia Caraquez (Ecuador), Bahia Malaga (Colombia) and Bahia Vacamonte (Panama). Special attention will be paid to the recommendations contained in the Global Programme of Action in conducting the studies.

7.11 A regional workshop is planned (late 1996) to consider technical aspects of sewage disposal. The costs of the workshop ($ 30,000) are expected to be covered by the South-East Pacific Trust Fund and UNEP.

7.12 In connection with the regional Protocol for the Protection of the South-East Pacific Against Radioactive Contamination, a meeting of experts will be organized during 1996, to review plans for research and monitoring related to radioactive contamination and related contingency plans. The costs of the meeting ($ 40,000) will be borne by the South-East Pacific Trust Fund and UNEP.

7.13 A monograph on the region's protected marine areas will be published and distributed (in the first half of 1996), and a few pilot studies on marine biodiversity will be launched with special attention to problems related to the Global Programme of Action (at the end of 1996).

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8. BLACK SEA REGION - Black Sea Environmental Programme (BSEP)/Odessa Ministerial Declaration/Bucharest Convention and associated protocols

8.1 A meeting of government-designated experts, independently appointed international experts and specialists appointed by United Nations agencies and the European Community will be held (18-24 March 1996) to review all currently available validated scientific information on the state of pollution in the Black Sea, as well as the results of the GEF-sponsored rapid-assessment survey of sources of pollution recently conducted in the Black Sea countries. The product will be a 150-page widely-diffused document representing a full regional pollution assessment. The document will examine the relative importance of the various sources, identify major information gaps and uncertainties and will propose a regional pollution monitoring plan in conformity with the provisions of the Odessa Declaration and requirements of the Bucharest Convention. The cost of this activity will be $ 80,000, shared between GEF, European Commission, UNEP (through IOC), IAEA and North Atlantic Treaty Organization (NATO).

8.2 A meeting of government-designated experts forming the BSEP Working Party on Integrated Coastal Zone Management (ICZM) will be held (25-29 March 1996) to review the extensive national reports on coastal zone management submitted by the six Black Sea countries, progress on regional ICZM report (to be completed by end of April 1996), and progress on ongoing ICZM pilot projects. Costs of the pilot projects, meeting and reporting (about $ 120,000) will be borne by the GEF, with the World Bank as the lead agency for this activity.

8.3 Direct assistance for re-equipping key national institutions participating in the BSEP baseline, compliance and trend monitoring programmes will continue to be provided. GEF Pilot Phase, Commission of European Communities (CEC) Tacis and Action Plan for Coordinated Aid to Poland and Hungary (Phare) funds (about $ 2 million for this work in 1994/1995) are now virtually exhausted. About $ 360,000 will be released by Tacis and Phare in 1996, mostly for training in Western Europe. Additional funding of about $ 500,000 in 1996 and 1997 will be needed to complete the previous investments and ensure sustainability, and will be sought through the Global Programme of Action clearing-house mechanism.

8.4 A meeting of the BSEP Working Party on Geographic Information System (GIS) and the Black Sea Information System will be held (8-9 April 1996) to launch the first edition of the Black Sea GIS and to complete the Information System. The cost of the meeting to GEF is $ 20,000. The total cost of the activity in 1996 is $ 150,000 shared between the GEF and the Government of the Netherlands. Additional funds of $ 150,000 will be required in 1997 (from source yet to be identified) in order to include a system manager and an INTERNET server. Additional support is provided through UNEP/GRID.

8.5 A Conference of the Contracting Parties to the Bucharest Convention (22-25 April 1996) will establish the permanent Istanbul Commission Secretariat, review requirements for implementing/amending the Convention and its protocols and agree upon a plan for the phased transfer of responsibilities from the current Programme Coordination Unit of GEF to the Secretariat. The cost of the Conference ($ 30,000) will be borne by the Government of Turkey. Government contributions to the Secretariat will be pledged during the meeting.

8.6 Meeting of expert groups will be held to complete on-going country and regional thematic assessments in other areas of indirect relevance to the Global Programme of Action. These include completion of assessments on:
(i) biodiversity (by April 1996); (ii) tourism (by May 1996);
(iii) fisheries (by April 1996); (iv) status of legislation (by March 1996); (v) emergency response to pollution (by March 1996); and oil reception facilities (by July 1996). The cost of this information-gathering exercise is borne by the GEF ($ 200,000 in 1996), CEC ($ 180,000 in 1996) and various specialized agencies ($ 20,000).

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8.7 A "Black Sea Environmental Priorities Study - BSEPS" will be conducted (February - June 1996) at a regional and national level. The study will draw upon and further extend the findings of various thematic and sectoral assessments in order to develop priorities which take account of environmental and economic costs and benefits. It will thus facilitate the decision-making process on which are the priority sources of pollution to be controlled and abated, and will result in essential information on economic feasibility and cross-effectiveness. The cost of the study ($ 400,000) will be borne by the GEF.

8.8 A limited portfolio of urgent investments, representing operations responding to acute environmental problems, inter alia, the control of sources of pollution, is being implemented by the World Bank. This work should be completed by early 1997, employing $ 1.525 million existing GEF pilot phase funds.

8.9 An ad hoc panel of international and government-nominated experts
(3-5 June 1996) will prepare a draft strategic Black Sea Action Plan on the basis of: (i) thematic regional reports; (ii) results of the BSEPS study; (iii) requirements of relevant regional and global conventions, including the Bucharest Convention; (iv) international policy agreements, including the Odessa Ministerial Declaration, the Global Programme of Action and the Danube Strategic Action Plan. The cost of this exercise ($ 40,000) will be borne by the GEF. This process is seen as an early opportunity to take actions consistent with the regional Global Programme of Action process and additional support ($ 25,000) should be provided through the clearing-house mechanism to over the cost of international consultants.

8.10 The draft of the Action Plan will be discussed at the meeting of the six BSEP National Coordinators with members of the ad hoc panel (17-18 June 1996). A series of national consultation will then be held in order to consolidate a final draft. The cost of the meeting ($ 10,000) will be borne by the GEF. The national consultations will be financed by the Governments involved.

8.11 The Parliamentary Assembly of the Black Sea Economic Cooperation will organize a symposium (9-11 July 1996) to discuss options for controlling Black Sea pollution. The estimated cost ($ 30,000) will be partly funded by the Council for Europe.

8.12 A technical meeting will be convened (September 1996) to consolidate an implementation plan for the Black Sea Action Plan and the Odessa Declaration. It is hoped that this activity can be supported by UNEP ($ 25,000).

8.13 A triennial Ministerial Conference will be called (October 1996) to review the implementation of the Odessa Declaration and adopt a revised or new Declaration and the Black Sea Action Plan. The cost of the Conference
($ 25,000) should be borne by the GEF and the host Government.

8.14 Studies and working parties leading to National Black Sea Action Plans will be organized from November 1996 to June 1997. These will identify the national policy and legislative actions required to implement the BSEP as well as a catalogue of priority environmental investments. The process will respond to the Black Sea Action Plan and draw upon national thematic reports prepared in 1995/1996, the BSEP national reports and will be supplemented with additional site- and pollutant-specific studies. Costs related to this process should be met through the Global Programme of Action's clearing-house mechanism.

8.15 A full feasibility study will be conducted (July 1996 - July 1997) on the establishment of a regionally based Black Sea Environment Fund to be based on the application of commonly agreed economic instruments. The Fund would be established to finance incremental costs of managing and

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protecting the Black Sea commons. All Governments have agreed to conduct the study and the associated costs are estimated as $ 635,000 to be shared between the GEF ($ 507,000) and the CEC ($ 128,000).

8.16 A donor conference will be hosted, in mid-1997, to consider the catalogue of priority projects, including proposed packages of blended funding, required to address the Black Sea Action Plan. It is hoped to link this activity with a regional meeting of the Project Preparatory Committee and to work closely with the Global Programme of Action Secretariat.

8.17 A rational Black Sea Basin-Wide Strategy will be developed through GEF's support (October 1996 - October 1997) in order to link actions taken to control land-based activities in the various major international river basins of the Black Sea (Danube, Dnjeper, Don, etc.) and develop a unified approach to Black Sea protection amongst the 17 basin countries. The strategy should be closely linked with the Global Programme of Action.
